



*Fire in the Heart, Firewood on the Back*

(Writings on and by Himalayan Crusader Sunderlal Bahuguna)

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## EDITOR'S NOTE

The present book of writings on and by Shri Sunderlal Bahuguna has been divided into three convenient sections. The first section consists of Shri Bahuguna's profiles, the second of interviews with him, and the third of articles by him. The pieces have been arranged chronologically, in order of their appearance in various publications. In the articles by Shri Bahuguna in the third section, a certain repetition of ideas and concepts has been inevitable, since many of these talks/articles are comprehensive and complete in themselves with regard to the issues they address. In the interests of retaining their original flavour and comprehensiveness, no attempt has been made to truncate the original pieces.

## Foreword

It is with pleasure that I learnt very recently about the proposal to print and publish this present book upon the Save Himalaya Movement that has inspired and induced numerous dedicated persons to join this all-out effort to safeguard the serene and pure environment of the Himalayan Mountains and to protect its delicate, fragile, but extremely precious ecology. The invasion of commercially oriented official projects has endangered our eco-system as well as the purity and integrity of our Himalayan environment. The Himalayas are a national asset belonging to the people of entire India though geographically this area may be situated within the secular jurisdiction of particular states. This national asset should not be treated casualty or tampered with by any authority either of the state or central government, due to its short sighted policy. Such a policy, and such projects, would constitute a flouting of the national interest and the welfare of the common subjects, and would mean ignoring the sentiments of our countrymen as a whole. The people need to be made aware of the actual situation in this regard. Hence this book is a timely publication.

The title of the present publication, “Fire in the Heart, Firewood on the Back” is touchingly significant and very meaningful in that it brings out the silent sorrow and the unvoiced resentment and indignation of the neglected hill dwellers in many of the third world countries. The world needs to know the plight of the less fortunate fellow beings of our global human family. The pioneering spirit and the deep dedication of the initiator of this movement to rescue the Himalayas from the onslaught of commercial exploitation, Shri Sunderlal Bahuguna is known to me since the past many years and I wish and hope this publication helps him in his onward struggle to save this national heritage. I wish the Movement all success and this publication wide circulation.

(Swami Chidananda)

## SECTION I

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## Fire in his heart, firewood on his back

Legend has it that a young prince, Bhagirath, in order to redeem the sins of his ancestors, took it upon himself to get Ganga to descend from heaven into the Himalayas. Centuries later, a Gandhian fakir, Sunderlal Bahuguna, is fighting mightier forces to impede the construction of the Tehri dam across the same river so that Haridwar and Rishikesh are not washed away in the event of an earthquake.

For all his love for the region and its bounties, it would have been appropriate if his original name - Gangaram - hadn't been dropped. The youngest of five children of a forest officer in the Garhwal region of Uttar Pradesh, Bahuguna had a sister named Ganga which only confused matters when either of them was called out. "Since I was a beautiful child, they renamed me Sunderlal," recalls Bahuguna.

Since then, the environmentalist has acquired several pseudonyms. Still a stringer with United News of India (UNI), Bahuguna wrote under the pseudonym 'Narad' for a local paper in 1940 to avoid detection. While the pro-Tehri lobby labelled him 'an enemy of science', Indira Gandhi forgot his first name and referred to him as 'Chipko Bahuguna'.

But much before he inspired the masses to hug trees, Bahuguna was drawn into the freedom movement by Mahatma Gandhi's innocuous-looking spinning wheel. "This charkha shall bring us independence," Shridev Suman, a Gandhian told 13-year-old Bahuguna. The latter was impressed enough to buy three books -two by the Mahatma - from Suman.

The metamorphosis was swift and Bahuguna began freelancing for Delhi newspapers. His penmanship wasn't appreciated by his family who packed him off to Mussoorie. It didn't help, for Suman's arrest soon thereafter made Bahuguna more resolute than ever. Says he, "Though Suman was kept in tight security, I managed to get information about the torture inflicted upon him. Soon the news were headlines in the national press which built up public opinion against the king's repression in Tehri Garhwal." The upset local police finally caught the offender on March 19, 1944. But luck was on Bahuguna's side. "The thanedar was renowned for his cruelty. But then he had also worked as an orderly to my father. So in order to fool others and preserve his reputation, he hit only on the ground while I cooperated by groaning and moaning," chuckles Bahuguna.

Shifted to Narendra Nagar jail, he received the news of Suman's death after 84 days of fasting. But Bahuguna was fed food with kerosene oil mixed in it. "Seriously ill, I was

operated upon by a half-crazy but competent doctor with a hookah in his left hand,” says he. The doctor, however, convinced the police to release Bahuguna conditionally as further imprisonment would have been dangerous to his life.

The acquittal launched the archetypal picaresque hero. Reaching Lahore with Rs 25 in his pocket, he made do with tuitions and a frugal fare of rotis and salt. A severe bout of typhoid notwithstanding, Bahuguna stood first in the university. His fees were waived off and a scholarship of Rs 15 was awarded. Then his past - the Tehri Garhwal police - caught up with him but Bahuguna escaped.

The stroke of the midnight hour saw him as the general secretary of the Prajamandal, the local equivalent of the Congress. He also started working as correspondent for Hindustan. Says Bahuguna, “They paid me two annas per column inch and Rs 5 on retainer basis. Devdas Gandhi asked me to write for The Hindustan Times also and I managed to earn Rs 15 per month.”

While organising adult education classes for the untouchables and protests against liquor vends, Bahuguna came in touch with Gandhi’s two European disciples, Mira Behn and Sarla Behn. In fact, he met his better half courtesy the latter. The “still very beautiful” Vimla Nautiyal was a worker with Sarla Behn. Says Bahuguna, “Her only condition was that I should renounce my political life. The total expenditure on our marriage, conducted under a tree in 1956, was Rs 49.

The late 60s saw Bahuguna going green. For while undertaking a padyatra, he realised that massive deforestation would ring the death-knell of the Himalayas. In March 1973, the UP government decided to auction the ash trees to a sports manufacturer when a month prior to that, a request by the locals to cut the wood had been rejected. When the contractors came with armed police, hundreds of women hugged the trees. Chipko - the world’s first environmental movement - had begun in the land of the apostle of non-violence.

Says Bahuguna, “Though it began as an economic movement to articulate the basic demands of the locals, it acquired an ideological impetus when the havoc wrought by the felling of trees began to tell upon the ecosystem in the form of landslides and floods.” In 1981, the UP government banned felling of trees above an altitude of 1,000 metres. It continues to this day.

Awards and international appearances have come his way aplenty. He declined the Padma Shri in 1981. Invited to the UN energy conference in Nairobi the same year, he drew attention to the precarious state of the world’s green cover by marching to the conference centre with a bundle of firewood on his back.

Bahuguna’s favourites are Garhwali devotional songs, Vishnu Sahasranam and the Gitai - rendering by Vinoba Bhave for his unlettered mother.

Another favourite is the common man with whom he has “worked all his life”. On the Kashmir-Kohima padyatra in the early 1980s, Bahuguna had for company an old man from Shimla. “His horoscope predicted that he would die while walking. Since nobody was confident of my surviving the tortuous 4,870 km journey, he had decided to give me company on my odyssey to heaven.”

Both survived.

(T.S. Sudhir in The Economic Times)

### Yes Prime Minister, re-enacted all over again

On Thursday evening, at 4.30 pm, MP George Fernandes met Prime Minister P.V. Narasimha Rao in connection with the continuing hunger strike by the 65-year old Sundarlal Bahuguna at the proposed Tehri dam site. The fast was already in its 35th day.

Mr Fernandes had just returned from a visit to the fasting environmentalist.

The Prime Minister expressed concern over Mr Bahuguna's health. He also said he had given instructions that blasting operations should cease at the dam site forthwith. When Mr Fernandes protested that the orders were not being followed, the Prime Minister expressed surprise and called in the cabinet secretary.

This time, in front of Mr Fernandes, he once again issued orders that all blasting be halted at the dam site. He also directed an inquiry be held into the project.

After the cabinet secretary left, the Prime Minister called in the principal secretary and repeated the instructions. He told both of them that Mr Fernandes should be informed once the orders were issued.

Since Mr Fernandes had been informed that the distinguished historian, Mr Dharampal, and the Supreme Court lawyer, Ms Indira Jaising, were leaving for Tehri first thing in the morning, he called them up and conveyed the news. He expected that Mr Dharampal, a close friend of Mr Bahuguna for over 40 years, would be able to persuade him to call off the fast in view of the Prime Minister's orders.

Mr Dharampal had earlier in the evening called upon RSS leader Bhaurao Deoras in connection with the fast, even as party ideologue Govindacharya was convincing Mr L.K. Advani to write a personal letter to Mr Bahuguna, requesting him to give up his satyagraha. The letter was handed over to Mr Dharampal, who was by now quite hopeful he could persuade the satyagrahi to relent over the issue.

After a gruelling eight hour drive, Mr Dharampal reached the Tehri dam site only to discover that Mr Bahuguna had by now lapsed into silence. His fast was still on. His health was failing.

Mr Fernandes' message, however, was written down and handed over to the striking environmentalist. He read it, paused.

The fast was in its 37th day. The wispy romantic who has charmed thousands all over the world with his talks on Mother Nature, Ganga and the famous Chipko movement, had already lost 10 kilos. He was now skin and bones.

Yet, what was startling was the fact that he did not appear down and out, depressed or let down. A remarkable energy still burned within him. Mr Dharampal recounts that for the few hours he was with him, Mr Bahuguna wrote more than 12 pages of letters and notes.

He walked about briskly, his impish smile still on display.

Years of hard discipline, training and spartan diet had now come to the rescue of the man who had received the Right Livelihood Award, often described as the Alternative Nobel Prize.

The man who for years lived on a tiny diet of sprouted moong beans which he carried about in his satchel was now finding he could fast for a period that would have felled most normal people.

But not even Mr Bahuguna's closest sympathisers were optimistic any more. Mr Dharampal himself felt Mr Bahuguna would collapse irreversibly within the week.

The man was now writing his response to Mr Dharampal's message concerning the Prime Minister's orders. He was ready to give up the fast, he wrote, but he needed some concrete assurance. Only last night, a large explosion had been heard at the dam site: the blasting was still on.

The historian attempted to persuade the environmentalist: "It will take some time for the orders to reach Tehri. You must not be too cynical. After all, the Prime Minister has issued the orders in front of Mr Fernandes. The instructions will come. The blasting will cease.

Mr Bahuguna was not convinced. In 1990, the then Prime Minister V.P. Singh had made an identical promise to Ms Medha Patkar and others when they met him in Delhi, demanding a review of the Sardar Sarovar project. Mr V.P. Singh never stood by his promise. Politicians are not to be trusted. Always get things down on paper.

So Mr Dharampal left, disheartened. He carried with him a letter that Mr Bahuguna had written to the Prime Minister. Mr Dharampal also carried a note to Mr Fernandes asking him to meet the Prime Minister again, deliver the letter, and ask for a concrete assurance. When Mr Dharampal met Mr Fernandes on Sunday morning, he gave him the letters.

Mr Fernandes informed him, much to Mr Dharampal's consternation, that he had yet to receive any confirmation from the Prime Minister's Office that the orders to stop blasting at the dam site and for an inquiry had been sent out.

"I have met the Prime Minister on this thrice." Mr Fernandes told the historian wearily, "but I shall try him again."

It is indeed surprising that an order, as unequivocal as the Prime Minister's to the two senior most bureaucrats in the government should be so openly (and callously) flouted, particularly when a man of the stature of Mr Sundarlal Bahuguna is on the verge of fasting to his death, on an issue that concerns the nation so deeply.

It is not that the Prime Minister does not agree with him. Mr Narasimha Rao has openly expressed his views on Tehri and demanded that the blasting be stopped.

It is not that our new master, the World Bank does not agree. They have long ago refused to finance the Tehri dam project because of its potential hazard for the 20 million people downstream.

It is not even that the ministry of environment and forests does not agree. It has already decided that the project authorities have violated practically every condition laid down when the project was cleared by it.

So, in the meanwhile, the project that will kill the Bhagirathi and the Bhilangana, the two tributaries that later on become the Ganga, continues. No one, not even the BJP administration has any compassion for the two sisters.

This country has lost all interest in protecting its most sacred places. There is compassion, but not for the Ganga or the Bhagirathi

All the compassion of the Uttar Pradesh administration and of the people in the Prime Minister's Office is reserved these days for Jaiprakash Associates, the contractors who are preparing for the massacre, in the name of development and progress.

Jaiprakash Associates is the company also involved in the killing of the Narmada, through the Sardar Sarovar dam.

While the Prime Minister's orders are ignored, a 65-year old man, widely respected as the first guru of the environmental movement, enters the 41st day of his fast, prepared to die for a cause that should mean as much to all of us as it does to him.

(Claude Alvares in *The Observer*, 8 April 1992.)

### The Old Man and The River

Every night I put the newspaper to bed, praying that the next morning I do not wake up to find my friend Sunderlal Bahuguna is dead. For every day the old man's fast (which began on February 28) pushes his frail, sick body inexorably towards permanent and irreversible damage. He does not seem to be aware of it as yet.

Or perhaps he has just ceased to care.

This is the impression of people like historian Dharampal, lawyer Indira Jaisingh and human rights activist Claude Alvares who met the septuagenarian environmentalist eight days back. All of them say that an unreal but palpable power is keeping the old man still alive, to pursue a satyagraha that has crossed its fortieth day.

Sunderlal has ensconced himself by the bank of Bhagirathi, a few hundred metres from the site of the proposed monstrosity he is risking his life to stop. The Tehri dam.

Only a tattered tent remains above his head, while huge trucks and dumpers, belonging to Jaiprakash Associates, who are building the dam for a whopping hundreds of crores of rupees, arrogantly roar about the neighbourhood all hours of the day and night. They are confident that no power on earth can stop them.

Meanwhile, Sunderlal's followers and members of his immediate family keep a quiet vigil over his deteriorating health, as the satyagraha enters his last lap. The internationally famous Chipko leader, who recently won the Right Livelihood Award, also known as the Alternative Nobel Prize, has also taken a vow of silence, but breaks it twice a day to speak to those who come to the tent to hear him and enquire about his health. He tells them not to worry, to keep their spirits high for the struggle will be long and arduous and, even if he is not there with them, to carry on till someone listens.

Till someone listens to the simple message he is trying to get across to those deaf, blind and uncaring men in New Delhi to whom cash-rich contracts are more important than their heritage.



A few metres away from where Sunderlal Bahuguna is fasting, the two lovely rivers, the Bhagirathi and the Bilangana, unite to form one major river, moving joyously down their course, as they have done for thousands of years, into the mountain ranges where engineers of the Tehri Hydro-Electric Dam Corporation wait for them with cement, rocks and iron rods to perpetrate one of the most heinous crimes this country will ever see: the choking of the sources of the Ganga.

I have remained a steadfast admirer of Sunderlal ever since I first met him several years back. He had dropped into my office in *The Illustrated Weekly*, to introduce himself and talk to me about some of his pet obsessions.

He needed no introduction, I told him. I was an admirer of his.

I knew exactly what he was doing. In fact, I proposed (and published) an interview with him, which remains till date one of the most exhaustive conversations he has ever had on the issues he has fought for all his life.

In him I found an incorrigible romantic. In me he found a friend.

Years have passed by. The word green is no longer a banner raised by the eccentric fringe. It is a mainstream concern. A concern for people, life, nature. An alternative way of looking at reality and preserving all things that belong to all of us.

It provides a rationale for existence that goes beyond sheer greed.

Many people all over the world - writers, painters, musicians, serious business people, and even politicians, hard nosed bankers and glamorous film stars - are now talking the language of ecology, of survival. Threatened as we are, today, by desperate men in jack boots, the red swastika of progress emblazoned on their arm bands, who want development at any price, who are ready to give up all that they have for the sake of some Kafkaesque nightmare they want the brave new world of the future to be.

Yet the silent majority believe, as indeed I do and many others I know, that a country ready to wilfully destroy its rivers, mountains and forests has nothing left to live for. If the Tehri dam is indeed built, and I for one hope it never will be, whether Sunderlal survives this fast or not, if these two majestic rivers are strangled by the neck till they choke into a godless and dead reservoir, we shall have one reason less to have children, one reason less to hope. If the murder of the two rivers and the wonderful green valley through which they now pass is development, what remains thereafter?

Sunderlal has (quite rightly) refused to get trapped in the development-versus-environment debate. That is now the preserve of multinationals, the Earth Summit, and politicians like Kamal Nath. Unlike Sunderlal, Kamal will survive, despite the fact that his own advisers and the secretary in the Ministry have urged in no uncertain terms that the project be immediately stopped because of violation of all the environmental conditions they had imposed upon the project authorities.

Yet the only thing the environment minister has done is to send the file to the Prime Minister's office, where it is collecting dust.

For Sunderlal Bahuguna and for many of us the issue is whether this monstrous crime against nature and our heritage in an area so closely identified with the cradle of this civilisation can be permitted by anyone on earth. Whether the UP Government or the



union authorities have the power, the moral authority to destroy an entire river in pursuance of some insane (and totally wicked) notion of development. The faith of ninety crore people is at stake today.

The Ganga forms the material and spiritual substratum on which we Indians live and fulfil our lives. How can we allow men like Kalpnath Rai to deprive us this right? How can we allow Jaiprakash Associates to despoil all that we hold so precious and sacred? How can we allow Kalyan Singh's government to encourage a crime as flagrant and as frightening as this, even as they speak of Ayodhya and the Hindu heritage?

There is nothing more Hindu than the Ganga. Just as there is nothing more sacred and secular as the Ganga also. That is what Sunderlal Bahuguna is trying to say, even as he sits there beside it: a frail, tired figure living out the last years of his life, and may be the last days.

Parliament is busy with Bofors, with Asea Brown Boveri. The Prime Minister is busy with the forthcoming Tirupati session of his party. Kamal Nath is busy preparing for Rio. Kalpnath Rai is busy trying to protect P.S. Bhami, the scandalous NTPC boss. The Opposition is busy trying to test the durability of a minority regime.

No one has time for Sunderlal.

No one has time for the Narmada, the Bhagirathi and the Bhilangana.

There may be other aspects to the dam struggle. Whether the Tehri project will generate electricity or water for irrigation, or help to produce more food. Experts say the benefits do not justify the cost. Even the Prime Minister admits that today.

Even the World Bank has backed off from the project, having studied its implications. Even the environment ministry (like Pontius Pilate) has washed its hands.

The benefits are now only going to the contractors. They are the hired assassins.

They will make the cold, hard cash and pass some of it back to those who are protecting them.

But of what use is the grain grown by the destruction of the Bhagirathi and the Bhilangana? It cannot be eaten, having sprouted from the dead remains of what was once alive and sacred.

Make haste then. Go to the Tehri valley, run to the assistance of the old man and his river, our rivers. Any morning his body may cave in, a terrifying prelude to the strangulation of nature. and the callous annihilation of 20 million people downstream from Rishikesh to Hardwar and Calcutta, if and when the dam collapses and unloads its accumulated guilt.

If Sunderlal-Bahuguna is allowed to live, and only you and I can make that happen, he gives us another chance.

In the last few years of this century, of this millennium, it remains to be seen whether we have the wisdom to understand what Gandhi lived and died for. The real Gandhi. Not those, his namesakes, who have brought us (and India) to this sorry pass where any crime against nature, life and history can be explained away in the name of progress and development.

Before the fifth horseman rides in, it is time we had a fresh look at our priorities, our concerns. Otherwise, everything we have held precious for so long will die. Or, worse, they will be murdered by the same people who are (today) responsible for trying to kill Sunderlal Bahuguna.

He is doing the best he can. By peaceful satyagraha.

By laying down his life so that you and I (and our children) may live.

You must do your best. Wherever you may be, write, call 01 send urgent telegrams to the Prime Minister before it is too late

Ask him to intervene, to stop the blasting of the valley, to re-examine the Tehri project. Urge him to stop Sunderlal Bahuguna's fast before he attains samadhi.

(by Pritish Nandy in *The Observer*, New Delhi, April 12-18, 1992)

### Moving Mountains

Was Gandhian environmentalist Sunderlal Bahuguna's 45-day fast demanding a halt to the building of the Tehri dam a success or a heroic exercise in futility? Bahuguna and his followers wanted the project scrapped, or at least some concrete steps taken towards reviewing it. Orders prohibiting further blasting at the site, issued by the Prime Minister's office, were received by the Tehri Hydro Development Corporation (THDC), the public sector agency handling the project, on March 28. But Bahuguna persisted with the fast demanding nothing less than an assurance about the fate of the dam itself.

When he gave up his fast on April 12 no such assurance had come forth. Bahuguna's formal statement at the conclusion of the fast read: "I look forward to some concrete steps... It would be appropriate if an independent committee of individuals and organisations not connected with this project is set up to make a thorough review of the Tehri dam in its existing form." No such committee has yet been formed, let alone a decision taken. So it could be argued by his detractors - and there are many - that the fast was a failure. Saving Bahuguna's life became more important for himself and his followers than the cause he was espousing.

But given the nature of the opposition Bahuguna was up against, his achievement is considerable. There is very little local support for the anti-dam movement. Bahuguna cut a forlorn figure, with hardly two dozen volunteers moving around his camp. When Uttar Pradesh Irrigation Minister Om Prakash Singh visited Tehri on April 13, Bahuguna's lieutenants were hard put to find a sizeable group to accompany them as they went to submit a memorandum to the minister.

Not that the Tehri Bandh Virodhi Sangarsh Samiti (TBVSS), the organisation spearheading the anti-dam movement, never had support. Formed in January 1978 it held massive demonstrations in Tehri town in the initial years, its members courting arrest and most of the political parties of the area, specifically the left, backing it wholeheartedly. Over the years as the movement failed to make headway and the dam came to be increasingly regarded as a fait accompli, the support dwindled.

The administration was against Bahuguna from the start. It openly sided with the dam builders by clamping prohibitory orders at the dam site on February 27, even without any

threat to law and order there. Bahuguna and his supporters were arrested the next day for defying the orders - their removal enabled the THDC to resume the blasting operations which the dharna had successfully stalled. Chief Minister Kalyan Singh did not care to reply to Bahuguna's letter of March 6; on the other hand the chief minister wrote to the Prime Minister urging him to intervene immediately to remove the hurdles in the path of construction of the dam. In the circumstances, the instruction from the Prime Minister's office stopping the blasting has at least sent a clear message to the THDC, its contractors and the local administration that Sunderlal Bahuguna is not to be trifled with.

The dharna and the fast have slowed down the dam construction, and drawn a question mark over the fate of the dam. When, after a meeting on December 14, Bahuguna and his followers began their dharna, dynamiting had to be stopped for fear of the flying rocks hurting the protesters. "Our target had been to complete the raising of the coffer dam between November 1991 and June 1992," said B.C. Jattana, the executive director (projects) of the THDC. "Now we have no chance of making it. But the dharna carried on for 78 days, till the agitators were forcibly removed by the police on February 28. By then it was too late. No work can be done on the coffer dam between mid-June and end October because of the monsoon. So the deadline has been stretched by a year - to June 1993."

The orders from Delhi prohibiting blasting have left the THDC and its contractors with little to do. The clearing of a spillway to let out the flood waters and minor geophysical investigations are still on. But the blasting occasionally required to clear rocks in the spillway bed cannot be done. "There is bound to be cost escalation due to this delay," said Jattana. "The contractors will ask for compensation for having had to keep their men and machines idle - we may have to pay up to Rs 1 crore." More importantly real work on the dam is now postponed to November which gives the anti-dam activists time to lobby more effectively for a review.

Clearly, it was the Uttarkashi earthquake of last October -whose jolts were felt throughout the UP hills - that sparked off the latest round of activity by the anti-dam forces. By then most environmentalists had given up Tehri as a lost cause. The last major protest - once again led by Bahuguna - had been in December 1989, when he fasted for 16 days. Maneka Gandhi was Union minister of state for environment, and opponents of the dam expected much from her. Though it was agreed at a meeting between anti-dam activists and government officials that no blasting would be carried out at the site until the environment appraisal committee attached to the environment ministry had submitted its report, blasting began barely a week later.

And the report of this appraisal committee, headed by D.R. Bhumbla, vice-chancellor of the Hissar Agricultural University in Haryana, was nonchalantly shelved: it had declared the project hazardous on many grounds. Another committee headed by D.P. Dhoundial, director of the Geological Survey of India, was formed and it provided exactly what the dam builders wanted. By then Nilamoni Routray had become Union environment minister and he gave "conditional support" to the dam. The THDC's concern for environment issues is nothing great: as Environment Minister Kamal Nath recently pointed out, many of the conditions that Routray had made remain unfulfilled.

The main argument against the Tehri dam had always been that it was being located in a highly earthquake-prone area, and that the safeguards being incorporated were

insufficient for the dam to withstand a high-intensity earthquake. The Uttarkashi earthquake vividly established that the earthquake threat was real.

“I never dreamt they would go ahead with the Tehri dam even after the earthquake,” said Bahuguna. But even as the Prime Minister’s response was ambivalent, Union Power Minister Kalpanath Rai blandly ruled out any review of the Tehri project. Dynamiting, suspended after the earthquake, resumed on December 3. Bahuguna and his followers had already started their dharna, but realising that no one was listening to them, they began direct action on December 14. At night, when they heard the rumbling of bulldozers and earthmovers, Bahuguna climbed on to one of the machines and stopped it from functioning.

The contractors sought to counter him by propping up - many say, creating - a pro-dam organisation, the Bandh Banao Samiti (BBS), which on February 18 abused and heckled Bahuguna and his supporters. There was no clash whatsoever, as Bahuguna’s men refused to be provoked, but the administration used this incident as an excuse to clamp section 144 in the area a few days later. On his arrest on February 28, Bahuguna went on a fast.

The fast continued even after his release from jail on March 7, since the authorities did not allow him to camp where he had been earlier located, Instead he was given a new place on the outskirts of Tehri town, while blasting went on at the site. “The police behaved very badly with Bahugunaji,” said one of the TBVSS leaders, Vidyasagar Nautiyal. “He was dragged from the camp site, abused and dumped into a cell like a sack of potatoes. The policemen seemed to have no idea of the stature of the man they were dealing with. An 86-year-old woman, and two minor girls, were also among the 15 people detained.” Nautiyal, a lawyer himself, also pointed out many irregularities in the way Bahuguna’s case was dealt with.

The deadline for completion of the main dam has also been postponed by a full year to June 1997. So far the preparation of the entire seat - or bed - of the dam, a staggering 1.1 kilometres long, has already been completed. The diversion channels are ready, while the head race channels are half complete. The coffer dam, which is to be 81 metres high, has been raised up to 15 metres. Work on the spillway, and on the trench along the rim of the dam, is continuing. Most of the affected people have been paid their compensations - including some leaders of the TBVSS. itself. (Though certainly not Bahuguna who never had any property in Tehri.) Eleven of the 12 villages which will be submerged by the coffer dam have already been evacuated and the people resettled elsewhere. Around Rs 700 crore has already been spent. Even if a new committee is appointed, getting the government to abandon this project will certainly be an uphill task.

(by Debashish Mukerji in *The Week*, May 3, 1992.)

### **Bahuguna’s Diary**

If humility were a person, it would have a weathered visage liberally criss-crossed with wrinkles which indicate where dazzling smiles lurk. It would sport a flowing, Greek philosopher’s beard and clothe itself in simple khadi apparel with a large scarf tied round its head. It would carry a cloth bag hanging from a shoulder. It would probably go under

the name of Sunder Lal Bahuguna and most certainly carry a voluminous, much used diary with itself.

Though he wouldn't know me from Adam, Sunder Lal Bahuguna did exchange a pleasantry or two with yours truly ages ago. And in that fleeting encounter he also divulged the secret of his ability to stand up and dam a torrent of troubles bravely. He derives this strength from an inconsiderable, dog-eared diary.

One look at the man and you could be excused for wondering how a frail, elderly gentleman with such a warm smile can take on the might of a powerful state opposed to his radical viewpoint. Yet, among environmentalists, the father of the Chipko movement, who has been opposing the construction of the controversial Tehri dam, stands as tall as the hills he grew up amidst.

Several years ago, when he was in Nagpur, I was witness to a rather acrimonious scene. An inimical group of scribes let loose a barrage of caustic comments at him, ridiculing him for opposing construction of the Tehri dam. Evidently, their views were not in consonance with those of the renowned ecologist, who weathered the vitriolic storm with a tolerant smile.

Eventually the journalists, who wrapped themselves in egotism as in a garment, decided to stage a walk-out from his press conference. A swift cloud of distress passed over his sunny face. The disdainful demeanour had disheartened him some.

For some illogical reason, I decided to stay back and face the wrath of my colleagues later, rather than scorn the convener of the Himalaya Bachao Andolan. My meek protest did not go unnoticed and he smiled gently.

He extracted an ancient diary from his bag and slid it across, asking me to write my name and address in it. It was full of names and I inscribed mine too. He took the diary back and caressed it lovingly, his eyes twinkling with the fierce energy that his campaign demanded.

Thumbing through the volume, he said, "Whenever I feel that I might be losing in my crusade or have been left to fight it out all alone, I just go through this diary. I realise then that I am not at all unaccompanied in my drive. All these names are my friends who lend me support and courage."

Though I cannot confess to have taken a leaf out of it, I wonder if he still keeps his strength-imparting diary. If he does, his recent arrest at Tehri must certainly have necessitated his delving into the depths of that bag for it. I hope he did, for nestling somewhere in that voluminous diary, making a considerable speck on a piece of parchment, is my own name, lending its mite by proxy.

(Shishir Bhate in Indian Express, Bombay, 19-6-95)

### The Old Man and the Dam

Every morning, Sundarlal Bahuguna clambers down the steep path from his tin shed kuti in Tehri to the huge rocks that keep the Bhagirathi in check. There he dips his emaciated body in the ritual bath that he claims gives him strength, together with the honey and bael juice on which he has survived since April 13. Springing from Gomukh

above Gangotri, the sacred river passes through a deep cleft in the mountains nearby before winding through the lower Himalayan valleys to meet the Alaknanda at Devprayag where it becomes the Ganga.

Not a 100 metres from where Bahuguna bathes, the Bhagirathi foams into two diversion channels dug into the mountainside, to emerge below the cleft. It is in the space between that the foundations are being laid for the sixth highest dam in the world. The roads scarring the mountains on both sides indicate the gigantic proportions of the proposed dam. It is designed to rise 260.5 m above the present river bed, creating a 42-sq km reservoir upstream in five years.

With his long grey beard and wasted body, Bahuguna looks his part - a prophet warning of disaster. He is pitting himself against the social and environmental callousness symbolised by the advancing juggernaut of the high dam. It seems a highly unequal contest; his makeshift kuti will be the first to be submerged if the waters rise. But he is supported by a wide range of groups concerned with the protection of the Himalayas and its people. Religious sentiment is also involved in a region traditionally known as the abode of the Gods. Significantly, many of his workers are women.

Upstream of the kuti is Tehri, once the capital of the princely state of Tehri-Garhwal. The town accommodates 25,000 people and is studded with temples (it is on the pilgrim route to Gangotri), two mosques, schools, courts and other official buildings that recall its status in the glory days. The Maharaja's palace stands on a hilltop above the town; it, too, will be submerged if the dam is filled to capacity. Citizens are already being urged to leave; many have accepted compensation. Some were warned that they should move out this month because the lower areas may be submerged by a flood. Since even the coffer dam is yet to come up, the misinformation has estranged them further from the administration.

Further upstream is a 40 km-long valley which the reservoir will fill. Ranged on the mountainsides are the clean, low, whitewashed houses, with carved wooden lintels, that identify village Garhwal. They are comfortably spaced out on separate terraces; crime is rare. Twenty-two such villages will be entirely submerged in the reservoir; nearly 100 will be partially submerged. The staircase of green terraced fields, sculpted over the centuries, will disappear in the lower reaches. In a letter last year to Narasimha Rao, then prime minister, Bahuguna protested: "To build my ancestral house and the fields, my mother carried earth and stones over her head. There can be no compensation for my mother's sweat."

Bahuguna was then led to believe that Rao had agreed to appoint an independent review committee and called off his campaign. He describes his current vrata as an act of repentance for being taken in. He is now concentrating on securing a commitment that the Government will appoint a committee, headed by Justice V.R. Krishna Iyer, to review the project in all its aspects - technical, economic, social, cultural, ecological and spiritual.

After the elections, both subsequent prime ministers wrote to Bahuguna. A.B. Vajpayee expressed his sympathy and H.D. Deve Gowda assured him that he would look into issues he had raised "with care and in detail soon". Instructions have been issued to

“stay the shifting of the local population till a final decision is taken on rehabilitation”. In his reply, Bahuguna reiterated the demand for an independent review committee.

The most dramatic aspect of the Bahuguna campaign centres on the possibility of the dam collapsing in an earthquake. A placard plastered on his kuti warns: “If the Tehri dam bursts, a 260 m high column of water would wash away Rishikesh in just 63 minutes; 17 minutes later the waters would reach Haridwar.” Tehri lies in a quake-prone zone. Seismologists differ on whether the rock-fill dam structure can sustain a strong shock; many of them, including former Russian advisers, express confidence that there is no risk; others, including Vinod Gaur, former director of the National Geophysical Research Institute, fear there is.

While the earthquake threat has captured media attention, Bahuguna’s concerns - as indicated in his list of subjects for review - are much wider. The mammoth project endangers the traditions, culture and social relations of the region. Individual consumerism will be encouraged at the cost of community spirit. The trees being felled and roads blasted raise serious environmental concerns. The loose, friable nature of the surface is evident from numerous landslides; it is bound to increase siltation in the reservoir. The Wadia Institute of Himalayan Geology has warned that impounded water will further weaken rock and soil structures.

But the official Tehri Hydro Development Corporation quotes its own experts to counter such fears. Rs. 1,200 crore of the estimated total cost of Rs. 5,500 crore has already been spent. The project is designed to generate 2,400 MW of badly needed power at a lower cost than could be generated by other means. Delhi is tempted with the promise of additional power and 300 cusecs of water throughout the year.

However, experience has taught that such targets are seldom attained. The upstream Maneri project, near Uttarkashi, is still limping after 20 years. An examination of its problems, and the real costs involved, might help in assessing the future of Tehri.

The Tehri controversy dates back to the early 1960s, when V.D. Saklani, a senior advocate, began the campaign against the inundation of Tehri and eventually took the issue to the Supreme Court. Until crippled by disease, he led the movement against the dam. Then Bahuguna took up the cause. Saklani remains the president of the Tehri Bandh Sangharsh Samiti.

Opinion in Tehri is divided. Many have accepted compensation. There is an air of inevitability about the construction of the dam that the Bahuguna campaign is trying to counter in Gandhian style. The official forces ranged against him are well-entrenched. Talk of corruption is widespread.

The gulf between officialdom and the people is symbolised by New Tehri, the township constructed as part of the project. Laid out on a range high above the valley, like the hill stations created by the British, it is designed as a modern tourist and official holiday resort. In publicity posters, it is described as “the first planned mountain city of independent India”. It has magnificent official buildings. Even the jail is fit for foreign tourists. No money has been spared in creating a dream resort town, with a sprawling colony for officials and engineers on its slopes and the huge reservoir below whereas the focus should have been on rehabilitation. The rows of colour-coded buildings owe



nothing to local architecture or tradition. Except for a temple and clock tower, there is nothing to remind the locals of the old Tehri. They will be strangers there.

A fraction of the amount spent could have cleaned up old Tehri and made life easier in the surrounding villages. A project to pump drinking water up from the Bhagirathi to 50 villages near Pratapnagar has been dropped. It was not part of the Tehri project and did not fit its resort-style vision.

(Ajit Bhattacharjea in *Outlook*, June 26, 1996)

## SECTION II

### 1. The Forests are Sacred

— Interviewed by Shree Padre in *Sunday Herald* Bangalore, April 22, 1984

### 2. The Gentle Crusader

— by Claude Alvares, in *The Illustrated Weekly of India*, June 23, 1985

### 3. The Gentle Crusader

— by Anuradha Dutt in *The Illustrated Weekly of India*, -January 21, 1990

### 4. Sunderlal Bahugana's Crusade

— Interviewed by Madhu Kishwar in *Manushi*, May-June, 1992

## The Forests Are Sacred

The atmosphere around that secluded village house in a remote corner of Sirsi Taluk, surrounded by dense forests on all sides, was eerie. It was 9 p.m. Sunderlal Bahugana, the 'rishi' - like an old man whose only tapas is Chipko, was resting after a 15 km padayatra in the rugged North Kanara forests. Despite the hard day he had spent he was cheerful, and quipped, "I don't consider myself old" and humbly explained that "I am only a messenger of Chipko". Here are excerpts from a recent interview:

*What was it that prompted you to spearhead the Chipko movement?*

I left politics in 1956 and we were living with the poor people after establishing an ashram with my wife. I tried to find out what were the causes of poverty of these people. It was due to the soil erosion, drying up of water sources and this was due to deforestation. The village women came forward in our movement. In our area, women are the backbone of our social and economic life, because of soil erosion, the men folk had to come down (to the plains) for their livelihood and women were left behind. The whole burden of managing the family fell on their shoulders. They had to collect fodder, firewood, water, everything. Prior to this, we had launched a prohibition movement. It helped us in the mobilisation of women.

*Through women, could you succeed in roping in men too?*

Yes. If you involve women in some movement, then they influence the whole family. In a movement of ahimsa, only those persons can lead who can sacrifice. If you see

family life, it is women or our mothers who sacrifice more. They wake up early in the morning at 4 and go to bed at 10 or 11. Sacrifice is the first qualification for a soldier of the non-violent movement.

*Does the Chipko movement have any history or did the idea originate with you?*

It was in 1930 that people in our area revolted against the commercialisation of the forests. To suppress that rebellion, on 30th May 1930 the army was sent by the rulers of the State. As many as 17 persons were shot dead, about 80 arrested. Though the movement was then suppressed, we got inspiration from them. We established a memorial to those martyrs. In 1969, we repeated a pledge in front of their memorial. This became the background of Chipko. It later so happened that the UP government sanctioned felling of 50 ash wood trees in Chamoli district in Mandal village where people were refused even a single tree for making agricultural implements. They decided that they wouldn't allow anybody to fell "the trees. There was the impact of Sarvodaya ideas on them because we were working in that area. Prior to this to teach a lesson to the government, people used to destroy the forests. But this time, they said, we'll hug the trees. So the idea came, they demonstrated and the company people ran away from there. People went from village to village with this idea. In Indian history, in 1730, as many as 363 men and women offered themselves to the axe, in a village near Jodhpur in Khejadli village and they were the Bishnoi people. The tradition among the Bishnois is that they won't allow anybody to fell trees and kill wild animals. That was history though we didn't know about it then.

*Can you recall the kind of reaction of those against this movement?*

They came with the police force and sometimes threatened us through goondas. They made attempts on our lives too, but couldn't succeed. It once happened that when I was fasting in a forest, I was in a sleeping bag in a small thatched hut. And that was set on fire. But people were very alert. Sometimes there were 100 armed policemen and the women hugged the trees; the policemen said to the contractors, "go and fell trees". But the labourers were not ready. Women raised the slogan "We have no quarrel with the police, policemen are our brothers; we simply want to save our trees."

*How far has the Chipko movement spread?*

A number of people have visited our ashram and Chipko area mostly from Sweden, Germany, Netherlands, Switzerland, France, England, USA, from so many countries. Richard St. Barbe Baker, the Man of the Trees, was going round the world preaching for the protection of and planting of trees. He came to India in 1977 and as soon as he heard about the Chipko movement, he met me in Delhi, and came to our hills. When he heard the story of the sacrifice of 363 men and women, he wrote that down and spread it to 108 countries of the world. Like this, many people have taken the messages and are now working on it. For example, when Ivo and Brigitta went to Sweden, they protested against the spraying of pesticides in the forests. One gentleman from Switzerland came and met me recently. He said that they are faced with acid rain problem; this is due to the excessive use of fuel vehicles. They are now trying to popularise cycles and tell people that they should leave vehicles which run on petrol and diesel to save our forests and nature. I have attended two International Conferences, the first one, World Energy Conference at Nairobi in August '81 which I joined with a big bundle of firewood on my

back. In 1982 I was invited by the UN Environment Programme to attend a public hearing on environment. Thereafter I was invited by friends interested in the Green movement in France, Germany, Denmark, Sweden, Switzerland and Austria. Everywhere I spoke in Universities and groups which are working for the protection of nature. They have also written books on this movement in different languages. There are books in French, Dutch, German, much in Swedish about Chipko. In this way, more and more people understand the essence.

*Have your foreign trips made you richer in the knowledge of the environment?*

Not much, because their problems are somewhat different. In Sweden, I saw an exhibition with the name 'Alternatives'. On the gate of that exhibition, there was a hotel, but all cooking was being done with the help of solar energy. There were chapattis, fresh vegetables, etc. In Western countries, they use tinned food. They said this is our revolt against tin-food; we want fresh food like Indian chapattis. Inside the exhibition, there were demonstrations of spinning by takli, charkha, loom and all these things. Outside, there was an open theatre in which folk singers and dancers were performing. They said this is our alternative to cinema and TV which has polluted the minds of people and mechanised everything. The system which Gandhiji had advocated - people are now realising that it's the only way out for survival. It strengthened my ideas. Unfortunately we are aping those societies which are destroying nature and peace all over the world. Our great teachers like Buddha and others have said that development is a stage in which you achieve peace, happiness and prosperity. And ultimately, it takes you towards satisfaction. But under material civilisation, development means affluence, that is material prosperity which is temporary, and in order to get that we are today sacrificing peace and prosperity and we are getting dissatisfaction, dissatisfaction...

*I learn that you have refused the Padmashree award given to you. What were the reasons?*

I welcomed it first, because they had recognised the illiterate village women's movement. But I said I don't deserve it till the flow of flesh and blood of mother earth that is the fertile top soil of India ceases to flow into the sea. I wrote back to Rashtrapatiji and humbly refused it.

*Apart from Chipko songs, what other methods do you employ to spread the movement?*

It was mostly through Bhagawad kathas. People in this country are highly religious. Religion is not simply dogma in our country but it was through religion that they tried to impart education in old times also. Take for example the peepul (ficus) tree which is considered sacred in our country. Now scientists have proved that a peepul tree having a canopy of 162 sq. metres can give 1, 712 kg of oxygen in an hour and absorb 2,252 kg of carbon dioxide. Through Bhagawad kathas, we tried to educate people and tell them that we should see God in every living being including trees and animals. We have tried to combine science with spirituality. Today there is science, but no spirituality. So science has become destructive. Though there have been discoveries in science, they have always been unmindful of the interests of common people.

Apart from all these, padyatras, the old method employed by Shankaracharya has been one of the effective means.

*Coming to padyatras, do you think you can activate people meeting them only for a few minutes'? Don't you think that it needs repeated effort?*

In padyatras, when you personally come into contact with somebody, you touch their hearts and make some impression on them. It also helps to identify, educate and train volunteers who'll eventually follow up the work. It works as a chain reaction.

*Could you please give us some statistics about our forests?*

On paper, our forest cover is 22.7 per cent in India. But recently I have learnt that according to satellite imageries, it's only 14 per cent and I don't know what density there is. All over the world, tropical forests are vanishing at the rate of 32 hectares per minute.

Mostly, they are felled to meet the increasing demand of industries. A study was made by the International Union of Nature Conservationists which says, the requirement of tropical hardwoods of three major industrial nations of the world, USA, Japan and Europe was 4.2 million cubic metres in 1950. By 1980 it went up to 66 million cubic metres - an increase of 1500 per cent within 30 years. There can be no system in nature where 1500 per cent regeneration can take place.

*Is there enough awareness in your place to carry on the movement even in your absence?*

In most of the villages, they have appointed their own guards to look after the forest. For example, in Silyara village where our ashram is, there are about 100 families. Each family contributes Rs.20 a year; they have appointed a lady forest guard. You can check forest destruction only if you make people aware of the importance of forests. You have to give the management of forests to people and the forest department should act only as technical advisors. In forests, you have to plant trees giving food, fodder, fuel, fertiliser and fibre. This is our 5-F formula. People are aware in the sense, they know the need of forests, what type of forest they want and they also plant trees.

*In what parts of India has this awakening taken place?*

There are very few places. I am in search of workers who can take up this work. It is only this aim which brought me here when I heard that young people under the leadership of our friend Pandurang Hegde are doing some such work here. I am trying to go everywhere, meet young people and inspire them.

*You have seen the forests here in North Kanara. What are your impressions about the state of local forests?*

We have to preserve natural forests first. Wherever clear felling has been done, they should re-stock it with the indigenous species. Otherwise they will plant those areas with Eucalyptus or teak and the area will be turned into a timber mine. A forest is something else. It's a community of living things in which big trees, small ones, bushes, birds, insects, wild animals, etc. are present. Unfortunately, by turning forests into timber mines, the balance is being lost. People say that the rainfall has been very erratic. They are not getting leafy fertilisers on which their crops depended. The importance of forests is not only for the coastal region, but for the whole of South India because your rivers, unlike the Himalayan ones, aren't snow-fed. Whatever water you get in your rivers is from dense forests. Forests are the mothers of rivers. They are also oxygen banks and factories of fertile soil. For oxygen, soil and water, you have to maintain the forests.

*What sort of afforestation programme do you suggest for Karnataka?*

Food is our first problem. Naturally first priority goes to it. Among food, I give first place to nuts. Fortunately, you can grow nuts here. Today you have to find out ways and means by which human beings and trees can coexist. It's the greed of the former which has slaughtered the latter till now. Now the latest scientific research says that with the increasing population pressure and decreasing per capita land, the only way out is to take up tree farming. Trees can give more in less land. If you use one acre of land to grow meat - for example, if you manage that land for fodder to beef animals, then you will get only 100 kg of beef in a year. If you grow cereals, you'll get 1 to 1.5 tonnes. Apples you get 7 tonnes. Walnuts 10-15 tonnes, I have no statistics about coconuts, but it should be near about that. Legumes, pods and beans you can grow 15-20 tonnes. Second priority goes to fodder trees. Trees giving fuel come next. The demand for firewood is higher than the rate of regeneration of firewood trees. We have to find out some alternative sources like bio-gas, solar energy etc. The town people can be supplied with cooking gas. Even then you need firewood. I recommend small bushes which can be trimmed every year. The priorities of the '5-F' can be altered according to local needs.

*Can't fast growing trees help our timber requirements?*

No. These fast growing trees, most of them are like children born in Moola Nakshatra. Such children eat up their parents, especially Eucalyptus. They are very disastrous for the health of the soil and water-table.

*In some places, they conduct sacred thread ceremony and marriage for peepul tree. Some pockets of trees are maintained as divine forests. Do you think these are subtle plans of our ancestors to conserve trees?*

Yes. They were highly scientific people. In Shantiparva in Mahabharata, they have written, "this tree, it drinks water, it feels thirsty, it's ill" etc. Now in the book Secret Life of Plants written by two scientists of Canada, they repeat all these things. I have already told you about the peepul tree. They have said, one who goes round the peepul tree 108 times will live for 100 years. That means that he'll get more and more pure air and won't be affected by pollution. In our philosophy, it is said, vasudaiva kutumbakam, the whole earth is your family. They have not limited the family to human beings. In the puranas, they have described a tree as equal to ten sons.

*What are your future plans?*

I am trying to bring three types of people together all over the country. The social activists, the humanitarian scientists - I say so because most of the scientists are doing cruel work these days, work that is anti-people, like growing eucalyptus - third, some journalists. I myself am a freelancer. I feel that journalists have a sensitive heart and if they understand a thing well, they can project it. Today, I feel, the biggest ideal before journalists is to re-establish the harmonious relationship between man and nature. Wherever I go I try to bring these three categories of people together, and I am sure, if they work together, they can bring a change.

*What is the response from the media for your movement?*

It was through the press publicity that the movement was known nationwide. Otherwise it would have been lost in the dark caves of the Himalayas. This is the

important social work that we should do in India today. Because soil, water and oxygen are our prime basic essentials which we need for our survival. Again there is the monster of pollution which is coming before us everywhere. People aren't serious about this. There is much talk on environment in big towns, cities and universities and there are big scientists and big people. But this is simply a fashion. It's only the people who are in the struggle of life as I have seen here in Sirsi area; they feel, we need forests for our survival. It's only the common people who can do something real.

*Doesn't your old age come in the way of your mission?*

(Laughs) I don't consider myself as old. I think myself as fresh as a boy of 13 when I first entered public life. When you are working for a big cause, you don't feel you are old. Vinobaji used to say in Hindi "After pachpan (55), bachpan (childhood) begins." I am 56 now.

*Before concluding, a couple of personal questions. Do you find time for your family amidst your heavy schedule and big ideals?*

My family has become so great that everywhere I find my family. I establish family relations with all those people whom I come into contact with. For example, when I heard about Pandurang's work here, I felt that he is a family member and I should come and work with him.

*Well, at the same time, your family members should be longing for your company...?*

I don't think so. Now they are accustomed to this. It is my wife who has been a source of encouragement for me. Instead of pulling me back, she has always been encouraging me to take up all this work. When I was arrested during the Chipko movement, she took up the leadership. As far as my sons are concerned, they are grown up and are joining me in these programmes wherever possible.

(Interviewed by Shree Padre in Sunday Herald, Bangalore, April 22, 1984)

### **The Gentle Crusader**

[The Chipko Movement is unique in man's war against the desecration of his habitat. In an unparalleled Gandhian experiment, hundreds of women and children formed human chains around forests in the Himalayas during the late seventies, thus effectively preventing its pillage. Today, as thoughtless development and rampant industrialisation have put the future of nature into peril, the lessons of Chipko are more relevant than ever. And countries in the West, ravaged by acid rain and inhuman pollution, are now trying to use its techniques to stall disaster.]

Sunderlal Bahuguna is one of the movement's torch bearers. A gentle crusader who believes that it is imperative for us to halt the rape of nature if we are to preserve it for future generations. Claude Alvares talks to him on the occasion of World Environment Day this month.]

The man is small made, and clearly an exotic species. The khadi is white everyday, but unironed, like the bark of his beloved trees. The head is kept protected by a bandana, for he is constantly, compulsively, tramping about in the sun. As an exponent of the alluring virtues of a pastoral economy, and as a defender of the permanence of an aranya-



rooted culture, he has few peers. Sundarlal Bahuguna can even keep an audience of hard-boiled bureaucrats spellbound with his small beady eyes, infectious smile and gently mocking wisdom.

Yet it is precisely this wispy, seemingly fragile-looking individual that has now become a major threat to a kind of development fostered in countries like ours by lavishly paid bureaucrats and officials from the World Bank, the Ford Foundation, and a host of other official agencies. Such official 'development' perceives land as but a cheap resource to be exploited for the wholesale production of pulp, one of the basic feedstocks of modern industry. It arrogantly praises its own approaches as 'pragmatic', dismissing more holistic, organic, and ecological strategies as 'slow', and incapable of meeting 'pressing' present-day needs. At one time, the combined strength of 'constructive' institutions in Delhi, and the media, was used to paint Bahuguna as a 'journalist' and 'propagandist', a modern-day Don Quixote tilting at windmills, a bit queer, for he said he was against all felling of trees.

But good things survive. This rare bird had just flown in from Goa where he had given the mine owners there additional heart attacks by daring to demand a total halt to the mining of Goa's splendid forested mountains, which he said was making one-third of Goa a wasteland. He had come to Bombay to receive an award as a 'Saviour of the Trees', from the Friends of the Trees Society. That ceremony took place on February 11, 1985.

Some awards he is keen to accept, for they further his cause; others like the Padma Shri he declined, staling: "I do not deserve it, for my flesh and blood that is, the topsoil of the Himalayas, is still flowing down to the sea due to tree felling." He is acutely aware that the same establishment that gives awards with its right hand holds the axe in its left.

Bahuguna is generally pleased with what he has achieved, and more, with what he has become. He is a long distance now from 1927, the year he was born, in a village of Tehri-Garhwal, on the banks of the Bhagirathi. Some of his earlier work concerned prohibition, not tree conservation. In 1965 he launched a prohibition movement with the hill women. It ended successfully in 1971 with five districts declared dry.

While he earns his living as a journalist, it is his legs that really do most of the dog's work; they must be strong as oaks. In 1981, he began a 'long march' from Kashmir to Kohima, a distance of 4,870 kilometres, including forays into the kingdoms of Nepal and Bhutan. That was to spread the enchanting message of Chipko, hugging trees to save them from the axe, at the cost of one's own life. The march ended in 1983.

Last year, Swiss organisations invited him to visit their country, to help them build a movement there to save their forests, mortally struck by acid rain. It was a reverse transfer of technology, tinged with irony, for the end of 1984 brought Bhopal.

It is a surprise to learn that Bahuguna is happily married. Vimla, his wife, a Sarvodaya activist, usually stays behind with their three children in their ashram in Silyara. Tehri-Garhwal, in the Himalayas, while he takes off cross-country, often on foot, to personally monitor the health of our remaining forests.

Sundarlal Bahuguna is no longer his own man: he is public property. He stands for the idea that the regeneration of our forests is our own task. We have a population of 700 million, who till recently inherited an aranya culture; we have people with ideas; we have



our own indigenous species of trees. We do not need foreign aid for reforestation, we do not need foreign advice, we know better about trees than other people elsewhere. We can manage our own environment if we want to.

If we refuse to take up this task, it is better we perish rather than have our future saved for us by foreigners and their agencies who only know trees as pulp, and whose knowledge of 'forestry' is little more than the mass planting of the beggarly species of eucalyptus and subabul.

I am interviewing you here in this great city of Bombay, so there is an irrelevant question I would like to begin with: why can't you be like everyone else? Why can't you go to office like so many people do in this city, labour from nine to five, go for movies, watch TV, go consumer shopping, and relax, behave normally, instead of this incessant wandering over the country like a mendicant fakir?

(Laughing) But we are facing an abnormal situation! All these things you mention are for a normal society, but ours is not a normal society. Nothing is any longer secure.

Looking around this city, one wouldn't think so at all: there don't seem to be too many wrinkled brows, and if one observed the hustle and bustle, there wouldn't seem to be anything to be afraid of.

Let's say people have become addicts that they are like a man who is drunk, who has forgotten himself. So in such a situation, he feels everything is quite normal. These people are addicted to their own condition. That is the reason for the apparent lack of concern. The fact is the people here are very clever people, they know their own interests, and they are conscious that the points we are raising are against their interests, against their comfortable lifestyles.

This is the reason why I concentrate more on the commonplace. When I was a young man, I did what most people found unintelligible. I turned my back on the plains and set my direction towards the hills. My wife, Vimla, and I decided to settle down in a village, and discovered that a real life is that of the farmer, of those who work with their hands. Villagers have wisdom. It is a wisdom that is a collection of experiences handed over from generation to generation, not to be trifled with.

So I do not rely on city folk to carry on this experiment. I prefer to reach to the hearts of common people. I know my work involves inconvenience for the affluent. I am campaigning for blocking the supply of raw materials to the affluent. The affluent are very powerful. They have scientists as their servants; the rulers are in their pockets. But the herds of the people are not with them. Once our people realise the kind of destruction taking place, they will stop it.

This is an uphill task, but I feel it can be done; with young people who have enthusiasm, a balanced head, heart and hands. Most of our young people today have a big head, small hands and no heart at all.

I think you are underestimating the clout of the establishment, and the massive infusion of a consumerist ideology in the most distant parts of the country. Millions of people faced with the ruin of their habitats, are being drawn by the tinsel glamour of development. Friends keep telling me people want development, they wan! TV and videos, they want useless tonics and drugs.

That means nothing. The situation is fast becoming critical even in a city like Bombay. Water is polluted, and so is the air. Systems are breaking down. Take Europe, the symbol of such development. They find all technical means to control air pollution have failed. They suffer acid rain quite seriously. They face new illnesses. Children in Berlin are dying from a disease called “pseudokrups”, a kind of asphyxiation, brought on when the air is heavily polluted and there are no winds to circulate and disperse it. Their forests are dying from acid rain.

I met a forester in Europe who said don't worry so much about the dying forests, the children come first, take care of that problem first.

So we people are in the race to create more Bombay's. I have just come from Goa, and there too they want to make it just like Bombay. They want to spread this bankrupt industrial culture everywhere.

Ah, but when we write about these things and say we have had enough of this development, people attack us and say we wish to keep the country backward, we want to take it back to the past.

We are talking about the future! Industrial culture is a temporary culture. It is based on non-renewable resources. This is what I told the mine owners in Goa: their progress is only for 15 years more, after which there will be no more good quality ore. If their concern is foreign exchange, they should keep some for the future generations too.

This is how Chipko originated. We were all a little confused in the beginning, and there was a split later in the movement over precisely this very point. Some thought it was merely a matter of growing more trees, but continuing the felling of existing trees for industries. It was the village women who taught us something. They spread the message that trees are not for resin and timber but for soil, water and pure air. That's when we began to ask for a total ban on the cutting of trees. So they attacked me, saying he has now gone mad, for he will allow no felling of trees at all.

We are interested in cutting the very basis of this so-called development, for true development does not occur on barren soil; it needs fertile soil to grow. And like trees, so too human beings require proper soil, water and environment to be healthy. Our task must be to increase this basic capital of soil and water, to convince people of this.

Schumacher called attention to this, but you know it is difficult to educate institutions like the World Bank, the Ford Foundation, the Planning Commission, and others who pretend to be idiots when one talks in such language. Capital is for them western technology, mineral resources, equipment and cash. Modern civilisation defines capital as it pleases, legitimates such activity, and has the political clout to enforce its domain

Even in Western countries, they now take water and air pollution very seriously. We should have some industry; I have no objection to it. But not like we do now: we are doing it to fulfil our never-ending desires (vasna), instead of meeting our needs (avashyakta). We are provoking people's greed which has no end. In fact, we are giving birth to a war psychology all over the world. The fight for resources is creating a war psychology. Affluence of the industrial world is based on plundering our resources. The third world, which is basically in the tropics, today exports large quantities of hardwood to the three markets of Japan, America and Europe. In 1950, the tropics exported a mere 4.2 million cubic metres. In 1980, we exported 66 million cubic metres. The Americans

are producing their beef in Latin America, so is Japan. The Japanese are by far the cleverest. They have propagated subabul in the Philippines so that they can get chicken feed...

This is the first time I'm hearing of this.

Yes, to produce fodder to feed their birds: they use the leaves in compound feeds. And now they are dumping the tree in India. Like eucalyptus. The wood is required for rayon. Switzerland has its own forests, but for coffins, they import wood from Africa! This is impossible. It is also unethical. Affluence depends on the arms trade, on a war psychology.

So we are exporting the fertility of our soil! We are doing so by growing tea, coffee, and eucalyptus for outside markets. These lands are for all purposes at their disposal. And we are getting their pollution in return. They are exporting their pollution to us in all these forms.

So what the advanced countries do to us, we in the cities are doing to the Indian hinterland, under the guise of these being backward areas. Under the label of development in Gadchiroli, big industry has come up and so the adivasis who once ate roots, leaves and fruits, are now encouraged to supply wood for the industry's needs. We have made tribals woodcutters. We are misusing our land for short term gains everywhere.

The water pollution of these factories is tremendous. To produce one unit of capron or rayon needs 500 times as much water as cotton. Industry does not permit soil, water and pure air. Only trees do. While the trees get less, industry increases. This is a fine way of going about these things.

The spirit of Chipko is this: soil, water, and pure air. The prosperity of mankind depends on proper land use, how you behave with the earth. You can never be happy, prosperous or content if you behave like a brute or a butcher with Mother Earth. Chipko is for a permanent economy. It should not be mixed with giving people jobs from forest produce, provided they plant trees.

It is a difficult proposition to get across to people in a city like Bombay or Calcutta or Madras where there are only a few trees, and only pollution of the worst sort, as a permanent environment.

We have to build again a model in which trees and human beings co-exist. This is the critical problem for our country. One can continue to see the principal products of the Himalayas as timber and resin, but Chipko's message says the Himalayas are part of Indian civilisation because of their contribution to soil, water and pure air.

We have to build up this capital. Our forestry should support our agriculture. Paradoxically, dense forests are required for industries! All industries need great quantities of water. Without trees, there is no water, no water remains. Forests feed the rivers in the Western ghats, and forests hold the soil in the catchment areas in the hills.

The British realised this. They used Simla as a summer capital, and for this they maintained the forests in the mountains all around the region. Now we have to think in terms of forests for the entire country, not Simla alone. The people in the hills have a responsibility to the people in the plains.

If there were a massive reforestation programme to be started, how would you direct it? The prime minister is reported to have said his government would see to the planting of 5 million hectares of land every year.

There are at the moment 175 million hectares of degraded land in the country. We have to improve this land, obviously. It is not just a matter of planting trees. We have to improve the soil. We must therefore plant trees and grasses that will help build up the soil and conserve it. Quick growing species like eucalyptus should be banned, for they only make the degraded lands worse. No monocultures. Our object must be to conserve soil and moisture, not expend both.

Another objective must be to provide food, fodder and fuel trees. Food trees first. Hunger and malnutrition are top priority problems. If we do not take care of these, people will continue to leave their lands and go to cities like Bombay and Calcutta, and build slums. Land is the major source of income still to most people in the world. Not cities.

We have to take action on other fronts. The control of effluents, grazing, indiscriminate brick making, unnecessary motor roads. We have to stop for all time the clearing of natural forests to raise commercial plantations.

We must get back to tree agriculture. Some trees produce ten to fifteen times what cereal crops, using equivalent land space, can manage.

My main demand in any reforestation drive is, fix a percentage. Right now the main emphasis is that village communities should be given full choice of what to grow, but I am aware that big companies will attempt to purchase influential village leaders to plant such crops like eucalyptus, for they want pulp under any circumstance. If firewood is the main preoccupation, we can even plant bushes, which can be frequently coppiced and which will not end up in rayon factories. I would fix a certain percentage: say twenty per cent must be food crops and so on.

The government is cautious about its 5 million hectares programme, and I don't think they plan to get the job done through big companies or through the forest department. If that were done, all plantations would be eucalyptus! Village level organisations will be given the choice of species and the resources.

We have got to create an atmosphere for tree planting on such scale. TRYSEM schemes should include training for maintenance of nurseries. And all kinds of religious institutions including churches, temples, schools, even the Dalai Lama should be recruited in this task.

But we have to maintain watch. The state governments are quite amenable to the influence of industrialists. Recently, I have found them planting eucalyptus in Rajasthan even though they have to carry water on camels. People uprooted 15,000 eucalyptus trees in Bikaner in anger.

*Sundarlalji, what is your vision of the good life?*

People should be self-reliant, and meet their basic needs from their nearest surroundings, with the least effort. Roti, kapda and makan are all very good, but before that I would first place oxygen and water. In an ideal society, oxygen, water, food and shelter would be available to all, and we would be free of necessity as the birds.

In the present society, we think exclusively of human beings, not of birds, animals or trees. This is bad. We are a community of all living beings, and each community should support the other. Man cannot continue as the exploiter of other species. We have to recreate a system in which all life is respected, whether life in the air or the fish in the rivers. In fact, we should take measures for eliminating the miseries of the other species, since we have hands and feet and a brain.

Regreen in every conceivable way, and this will keep people in their own environments, instead of being forced to consume the foul environments of the cities. Development means not just enough to eat, but that the food must be healthy and nourishing. Development must bring happiness, not just physical pleasure. Nature is essential. It has a soothing effect on human beings. People will have to select trees for their areas. The peepul is best for Bombay: it is a pollution fixer: it will take in more carbon and release more oxygen. For the hill catchment areas, we may need soil builders. We must calculate how many trees are required for each family. I think we need 2,000 trees for a family of five, for their animals, for all their physical needs.

(by Claude Alvares, in *The Illustrated Weekly of India*, June 23, 1985)

[Five years later Sunderlal Bahuguna was interviewed once again for *The Illustrated Weekly of India*; the interview was published with the same title as before]

### **The Gentle Crusader**

The early eighties saw an unparalleled Gandhian movement when women and children grouped to form human chains around the Himalayan foothills to prevent the rape of verdant hinterland. And then a whole new way of life was born – Chipko which emerged the most powerful torchbearer of that struggle. An unobtrusive messiah, Sunderlal Bahuguna, who has since spearheaded the country's environment consciousness programme in a manner no politician could have.

Now, years later, his courage stays firm, his mission remains the same. It has merely assumed yet another identity: the Tehri dam.

**Anuradha Dutt** travelled to Tehri to meet the frail old man whose quiet faith has convinced millions the world over to commit themselves to save the ravaged earth for future generations.

If the Tehri dam is finally made, a vital segment of Hindu mythological lore would forever cease to be relevant. This would be tantamount to meddling with the Hindu psyche in a more offensive way than the razing of a temple. For, the most sacred river of Hinduism - the Ganga - which has invoked innumerable paeans in its praise, as the source both of life and liberation, would never be the same again.

Already the flow of the river in the Bhagirathi valley has been diverted from the original river bed. Once construction of the dam begins - temporarily delayed because of the dharna undertaken by the environmentalist and Chipko movement leader, Sunderlal Bahuguna, 64, in protest against the implementation of the project the Bhagirathi Ganga, as this portion of the great river is known - will be on the verge of being converted into a

reservoir. While the dam might for engineers, politicians contractors and others who support its construction be a marvel of modern technology, it will, for those who value India's tremendous heritage, both cultural and environmental symbolise its violation.

In Hindu mythology Bhagirath drew down the Ganga, portrayed as a woman, from heaven through severe penance. Shiva trapped the torrential river in his matted locks as she came down to regulate her flow. The Bhagirathi Ganga unites with the Alaknanda at Devprayag to become the Ganga that flows down into the plains. The Tehri area is sacred because of its association with the Bhagirathi. The unimaginative advocates of the project can only further the degradation of this region which is already suffering the ravages caused by deforestation, by damming up the river.

In the light of the phenomenon of militant Hinduism, verging on fundamentalism, the religious repercussions of such an eventuality can well be imagined. Hindus, by and large, have as yet not awakened to the full implications of the project. When they do, the government will have to contend with the sentiments of a mass of people already agitated over the Ram Janam Bhoomi-Babri Masjid dispute.

From the economic standpoint, too, opponents of the scheme view it as being ruinous. For, the water and energy that will be drawn from the dam will be channellised into the plains for the use of commercial farmers and big industries while the mountains will remain under-developed and even regress because of the environmental damage. Besides, in Tehri town, almost a 100 villages will be submerged, some partially, displacing about a lakh of people, incurring the added expense of resettling them.

In financial terms, as well, the project is not viable. The CAG report of 1986 on the Tehri dam points out that, 'the original project conceived in 1969 and cleared by the Planning Commission in 1972 was scheduled to be completed in 10 years at an estimated cost of Rs 197.92 crores to yield 325 MW of firm power and irrigate 6.67 lakh hectares. However, according to the latest estimate, made in 1986, its cost would go up to Rs 1,342.62 crores, without targets by more than half.' The report adds: 'Safety factor of 0.15 g adopted in design of the dam may need upward revision leading to cost escalation'.

The additional factors cited against the construction of the dam include the destruction of flora and fauna, with 12 rare and endangered species under the threat of annihilation, the location of the dam in an earthquake-prone area and the psychological dislocation of the people who will be displaced. The Anti-Tehri Dam Committee, headed by a local advocate, Virendra Dutt Saklani, has been spearheading the agitation against the project almost since its inception. As Bahuguna, who managed to suspend work on the coffer dam by undertaking an 11-day hunger strike on the river bed, says, for the local people the implementation of the project threatens their very identity and ethos bred in the soil of the region. Now, by undertaking a vow of silence most of the time, he intends to continue sitting on the bed of the Bhagirathi till the government should yield to the demand to scrap the project permanently.

Since when have you been opposing the implementation of the Tehri dam project?

I started opposing it in 1969. Our MP at that time, Rajmata Kamlendumati Shah, first began to oppose it. But there were not many people who sided with her. The project was viewed as developmental work. Because I used to get around, I sensed there was

something wrong. I discussed the matter in detail with Dr. K.L. Rao, Union Irrigation Minister. But the UP government and engineers refused to agree.

I put forward several alternatives. Dr. K.L. Rao told them to save Tehri by making two small dams instead. They replied that this was not good enough. Then I told them that as a resident of Tehri, I knew there was an immense amount of siltation. What they could do was construct small dams on the many rivulets in the area. The people in the mountains would then have access to water at 100 feet high for the purpose of irrigation. The silt would also get trapped. In 20 years, the catchment area would be transformed into lush, green land.

After this, the people here started becoming aware of the issue. The Anti-Tehri Dam Committee was formed. People of all leanings were in it. But the problem was that if a person from a particular party became president, others would oppose it. Then I suggested that Virendra Dutt Saklani be made president as he didn't belong to any party and was also a distinguished person.

When did this happen?

In 1973-1974.

But opposition to the project began about 20 years ago.

About 25 years ago. Since 1965. Opposition began after investigations relating to the dam had been undertaken. Initially people thought that the work would induce development. Later the report on the project was leaked out and it became known that the dam would be located in an earthquake-prone area. Then people began to oppose it. Virendraji, who's a very sensitive man, said the dam would not be allowed to be constructed. On June 1, 1978, when the builders were to come and start digging for the diversion tunnels, the people here blocked the roads. About 150-200 people were arrested.

Finally we petitioned Parliament. A committee was sent to assess the project. Kamla Bahuguna and others were in it. We managed to convince them of our viewpoint. When Indira Gandhi came to power we spoke to her. She assured us that the government was getting an environmental study of the project done and that we shouldn't worry.

When the environmental study committee headed by S.K. Roy came here, we insisted that the construction work first be stopped. But they didn't listen. And the work went on rapidly. When nothing concrete materialized, we went to the Supreme Court in November 1985. The committee then adopted delaying tactics. The court too kept delaying. When the issue of constructing the coffer dam came up we applied to the Supreme Court for a stay order. The court told us to speak to the government. There was however no response from the government. By the time of the rally (against the Narmada dam project) at Harsud on September 27, I had decided that I must get fully involved in agitating against the Tehri project. Moreover, Saklaniji fell ill, and told me that then onwards I would have to devote my time to the agitation. In the meantime I was trying to meet various people. Access to Rajiv Gandhi was virtually impossible. We wrote to him, but there was no response.

How then was further work on the dam sanctioned by the government

That was a political decision.



Have you any idea who was responsible for this decision?

I can't really say, but I feel the decision was taken at the highest level. And you know that one of the construction contractors here is Thapar.

Who are the other contractors?

J.P. Associates. Jayaprakash Gaur (the owner) is now one of the most powerful people in India. Earlier he was just an ordinary overseer.

Which politicians belong to the pro-contractor lobby?

Former UP Chief Minister N.D. Tiwari. Vir Bahadur Singh belonged to it. Tiwari I think is taking enormous interest in the project. What is most unfortunate is that the parliamentary member who represents this region is actually from Dehra Dun - Brahm Dutt (Laughs.) And he is the most vocal in advocating the construction of the dam. He says it will induce great development. There is also a great deal of talk about Kalpanath Rai being the greatest supporter of the project.

Why is he supporting it? In fact, what special interest could these politicians have?

There are three categories of people - engineers, politicians and contractors - who will profit greatly from the project.

How exactly will the politicians benefit?

They have many ways. At the district level, the contractors here completely control the district. For instance, a man who is the district Congress committee president will become their advocate.

There are other similar ways. As for the big companies, I know with certainty that they have a set formula. They make the son-in-law or son of certain politicians, of the irrigation minister or chief minister, if possible a partner.

*Whose?*

J.P. Associates. J.P. Gaur was an overseer in the irrigation department. He had to quit his job in mysterious circumstances. He told the engineer that he had been acting in complicity with him. So the engineer told him to become a contractor. He prospered during the construction of the Chtlla canal near Hardwar. He is the owner of the Siddharth and Siddharth Continental hotels in Delhi. People believe that the hotels were built from the cement that was diverted to Delhi. He also has cement industries. This dam has largely increased his prosperity.

*Since when did it become a central project?*

About a year to a year-and-a-half ago when the Tehri Hydro-Development Corporation was formed. I think Kalpanath Rai's involvement began after it became a central project. People believe that the post of chairman was auctioned - some people believe that it was auctioned for Rs 10 lakhs.

*Who is the chairman?*

S.P. Singh from Bihar, who now lives in Delhi. He doesn't come here. We are, in a sense, subjects of this corporation. The corporation and the development companies have so much clout here that they function virtually like rulers - because they have this huge project and all the officers here salaam them. The situation is such that the politicians and

the administrators are all under their control. That is why I took this step (his dharna). Had it been an unknown person, they would have killed him. Last night (January 9) a car with five drunken youths came here. I sleep early. I heard that these boys demanded to know my whereabouts. They said they wanted to meet me. These people can do anything. The people here are very insecure.

*Did you and others who think like you try to meet Rajiv Gandhi when he was prime minister?*

We tried a lot.

*What was his response?*

He never replied to our letters.

*Did you try talking to N.D. Tiwari, Brahm Dutt and Kalpanath Rai?*

No. In that set-up everything was controlled from the top. And I had met Sathe.

*What did he say?*

He was quiet. In fact, he said to me first that the UPwallahs were exerting a lot of pressure. The UP ministers in the central cabinet were pressurising a great deal.

*Did he mention names?*

He did not. But who was there from UP? N.D. Tiwari, K.C. Pant - but Pant is an honest man though he had been energy minister at one time and there had been some problems then. The one man who admitted the mistake was H.N. Bahuguna. When he was chief minister there had been some work on the project. Later, he realised the mistake and he was with us.

*How is it that projects of this kind - the Narmada valley dam and Tehri dam - are sanctioned despite being strongly opposed?*

This happens because in India democracy conies only for a day, when the people cast their vote. After that democracy disappears. Ordinary people are not consulted. What is really surprising is that scientists have not raised their voice in protest. The S.K. Roy committee recommended against the Tehri project. Many people spoke against it. In spite of this people who rule this country want it to develop very fast. We must become like Europe. For this we must adopt those measures that Europe has adopted. We rely more on the European model than on what our people think.

*What are your and environmentalists and scientists' precise objections to this project?*

The first point is that the environment is being completely destroyed. In the mountains the lifestyle and ethos is very distinctive. The second point is that rivers should be allowed to flow naturally. Too many obstructions create problems. Then there is the issue of displacement. The land here is very fertile. Tehri has been the capital of Garhwal, the centre of its culture and literature. Great poets were born here, many other leading personages. Tehri has also been the abode of Swami Ram Teerth.

Everything that we value will be destroyed by this dam. That means our whole identity will be destroyed. It is being destroyed. Unfortunately, all such projects are being implemented in adivasi and mountainous areas. That is because our population is scanty. The population in Tehri must be barely 4 lakhs. We do not have proper representation

because of this. In UP our voice is hardly heard because it is such a big state. It has 435 legislators - of whom only 18 are from the mountains. And then too, politics is controlled by the moneybags and the crafty. From Lucknow, Dehra Dun, Delhi.

Some people believe that Brahm Dutt is specially interested in this project because in this election he lost badly from this district and from Uttar Kashi (though he won the Tehri-Garhwal parliamentary seat). So perhaps he wants this hostile vote bank to be permanently finished. Because, after the reservoir is made, this district will disintegrate. The reservoir will cover 42 square kilometres.

*From the economic and environmental standpoints, what are the objections to the project?*

The door for our economic development will forever be closed. This is because I see development in the mountains in the total context of the country's development. The specific development in the mountains has an impact on the economic condition of the country. Because the mountains are the source of water for the whole country. If the flow of the rivers here is normal then the supply of electricity and water for irrigation will be adequate. And this is possible only when the mountains are green again.

Actually, we want to build a permanent economy for ourselves and this can be realised through tree farming. It will be a model of a permanent economy for the country. They plan to take this water to the most irrigated area of UP. Now there is talk of taking one canal up to Delhi. Do they want the water only for 50-100 years or for ever? Because, this is a temporary scheme. After 50-100 years this area will be a desert. That is why it is very necessary to regulate the water.

*But people do need energy. What are the alternatives?*

Those who run after high energy have only the good of the centralised industries in mind.

*Whom is the energy that is to be generated from the Tehri dam intended for?*

For the industries on the plains. In the villages nearby, light bulbs keep on flickering because there is hardly any power supply. It won't be for the poor at all. As far as I know the run of the river scheme that we have been supporting can generate an equal amount of energy as the reservoir. I believe that centralised energy is meant for centralised industry and the big towns.

The first point is that there is no power supplied to the source area. And, second, we need electricity for other work. The main problem here is of deforestation. It is necessary to make the mountains green again. They must reach waters upto the peaks. So we need the energy to lift the water. The water requirements in the mountains are less than on the plains. Because on the plains the water is used for commercial agriculture. We will use the water for tree farming and the requirement for this is minimal. We can lift up the water in the monsoons, store it and use it for irrigation for many months in the dry season to keep the trees alive.

*Have you suggested this to the government?*

It is in our memorandum. When Indira Gandhi was told how hazardous the project was, she secretly sent her secretary, Rajmani, over here. I have heard that he reported

back that it would be dangerous to make this dam. He proposed the run of the river scheme but said that it would be unprofitable. When the project was envisaged the Planning Commission sanction was Rs 197 crores. Now the cost is Rs 3,000 crores.

*When was it sanctioned?*

I think in 1972.

*What is 'run of the river'?*

After the water passes through the tunnel, as it is doing here, it should be allowed to fall after some distance. The turbine has to be placed over that. This has been done in Uttar Kashi.

Geologists have said that this is an earthquake-prone area. That's right.

How then is the government allowing the project to be implemented?

They say we have the appropriate technology and can make an earthquake-resistant dam.

*Is that true?*

Our greatest authority on Earth sciences in India, Cochin University's vice chancellor Harsh Gupta, has definite views on this. He came here and pointed out this was a much more hazardous case. There is another point which was kept secret but found in old gazetteers. In 1803 there was a terrible earthquake here. As a result only 20 per cent of the population survived. Since this is a seismic zone there is cyclical recurrence every 300 years and the chance of a recurrence is very strong. Even more hazardous is the possibility that the villages in the rim area may slide down once the reservoir is made as the mountains here are structurally weak. The villages are already sinking.

*Where is the government going to rehabilitate the displaced people?*

It has no plans. In the beginning those who opposed the project were settled near Dehra Dun. They were given money but no land. What is most frightening is that they offer the allure of money. A new racket has begun in Dehra Dun and Rishikesh - the sale of plots. They think that the people from Tehri will go there. So, a plot that was valued at Rs 30,000 has now become worth a lakh.

*Do you have any expectations from the new government?*

We had expectations even from the earlier government, had good sense prevailed. This government has promised pro-people policies. It might be argued that a lot of money has been spent. Our question is, tell us on what and whom? They have devised many ways of earning money. First the tunnels were made and the debris was thrown in the river. Now the second task is clearing out this debris. The third task will be to bring it here. It's a continuous process to make a lot of money. They had to complete the coffer dam by July 15. They're worried now that the work has been suspended. The construction of the coffer dam began just a few months ago.

*Yet, the UP forest minister has reportedly proposed that the tree protection act be revoked. Can you have expectations from such people?*

All governments are conservative by nature. But in a democracy they have to yield to public pressure. Moreover, in this government there are individuals who at least meet the

people. Earlier no one was accessible. And if they were, they had no power to do anything. To survive the government will have to fulfill its promises. But my belief basically is in people's power. Make people fearless and make people selfless.

This case is, in a sense, more important than the Narmada one. Because the Ganga is a river which is enshrined in the hearts of crores of people. In the summer months there are innumerable pilgrims. The dam will be a grievous blow for them. They will ask, where has the river gone? Swami Chidanand of the Shivanand Ashram was the first to raise this point. He was the first man to bring the environmental message to this area in 1972.

*Have you met anyone at the Centre? V.P. Singh?*

I had met him when he was finance minister and he had said that a lot has been spent on the project. But since then two things have happened. One, the CAG report of 1986 which states that the project is unprofitable. Second, the government's own committee that has recommended against it.

*Should politicians be empowered to decide on such projects?*

I believe there should be independent bodies made up of scientists, environmentalists and all sorts of people who are not concerned with any politics.

*Should big dams be built at all?*

Such dams are disastrous. They do not serve any purpose. What you achieve is an illusory magnificence after a great deal of destruction. This is practically cheating the people.

So we should go for small things. To store rain water we should make several small reservoirs. Further, every river has a life of its own. When we interfere in this, its recharging capacity finishes. So much fertiliser goes from here to western UP to make it prosperous. But the source will now be inundated. We are creating deserts.

(by Anuradha Dutt in *The Illustrated Weekly of India*, January 21, 1990).

### **Sunderlal Bahuguna's Crusade**

(Interviewed by Madhu Kishwar in *Manushi*, May-June 1992)

*What steps had you taken to raise the awareness regarding the dam before going on this fast?*

When the work on the dam started in 1978, many men and women went to stop the work and were arrested and sent to jail. The whole area was converted into a police cantonment so that the people could not do anything. The government said that they would hold talks, but nothing came out of them. After this we sent a petition to the Lok Sabha with 10,000 signatures. A committee was appointed by the Lok Sabha which went there for fact finding but the Lok Sabha was dissolved before anything could happen. Then, in 1980 Mrs Gandhi came to power. She had visited this area earlier when she was out of power. She appointed a committee under the chairmanship of S.K. Roy, Department of Science & Technology, to investigate the dam, but environment was not covered in the enquiry. We are told that, based on the report of the committee, a decision on the matter would be taken. Mrs Gandhi personally recorded on the file that even

though the project had been prepared after a lot of thought and deliberation, she did not think that the project would be of any benefit to the local population.

Indira Gandhi had written that the matter should be re-examined, this dam should be given up and smaller projects should be designed. But the people in favour of the dam were very clever - they said that the small projects would all be loss making, and the Committee continued its work. When the Committee came we asked them to stop work on the project as lots of money was being spent on it even while a decision was pending. They submitted an interim report which was not implemented. The Committee took five or six years to reach a decision. When we got tired of waiting for the report, we filed a writ petition in the Supreme Court in 1985 for "right of life".

Then the report of the Committee came out in 1986. It said that the dam should not be built because it would not be safe, it was too risky. The government did not accept the report. The Department of Environment made the same recommendation. At that time the government did not have the money to build the dam, though some money had already been spent. In the meantime, Gorbachev came to India in October, 1986 and discussed the objections of the Committee with Indian government leaders and said that everything was okay. As the money was coming from the Soviet Union, the work restarted with renewed vigour in October 1986. It was converted into a central project as the UP government did not have the money. A corporation was formed in which the central government had a 75 per cent share and the UP government a 25 per cent share. While the case was going on in the Supreme Court, the government constituted a second committee. When I started a fast on Christmas day, December 25, 1989, it was a call-attention motion to tell people that this fraud was taking place but no one is even aware of it. After 11 days of my fast the work was stopped. The government then called me for talks. It was then decided to abide by whatever decision was given by the Scientific Committee. It was also decided that the project should be audited by the Comptroller and Auditor General (CAG) because the CAG had objected to it earlier. After that a final decision would be taken with the Planning Commission.

The committee of 14 scientists gave a unanimous report that there should be no dam. It is called the Bhumbla Committee after the chairman, a scientist who was Vice Chancellor of Hissar Agricultural University. Even this report was suppressed. Only one point regarding the earthquakes was considered by the government, and even this objection was overruled by their engineers. At this point we said that the same people who are interested in building this dam should not be giving decisions about the dam, and we demanded an independent probe into the matter. There were many prominent scientists from the USA, USSR and from within the country who said that the dam was too dangerous and should not be built. Most prominent amongst them was Vinod Gaur, Secretary of Ocean Development, who is acknowledged to be amongst the world's best scientists on earthquakes. Another one was a Russian - Borak, Chairman of the International Organisation of Scientists, as well as James Brune from Nevada University, whose formula had been used in the calculations. All of them were unanimous that this dam should not be built because there was danger to it from earthquakes. In response, the people wanting to build the dam originally said that there is no risk of any earthquake. After the earthquake occurred they said that it had not caused any damage to the dam. But how could it have damaged the dam since the dam had not yet been built! After the

earthquake we said that the project should be reviewed afresh because it has been proved that earthquakes can happen in this area and there have been fresh developments like cracks developing in the catchment area and cracks in the mountains. When rain seeps into these cracks there will be landslides - there have been many such incidents in the past. The catchment area of the Ganga is a very delicate area. In 1978 a big mountain in the catchment area of the Ganga crumbled and blocked the Ganga. There is a very long history of such incidents. There have been many blockages in the past; the river has changed its course many times.

And of course, the rate of siltation would also increase. We had hoped that after such a big earthquake the government would think afresh about building the dam there, but about eight days after the earthquake the Energy Minister made a statement that there was no danger to the dam from the earthquake as the design of the dam was earthquake proof. After he made this statement, we felt that these people are absolutely callous and they were hell bent upon building the dam no matter what the consequences. Therefore we decided to start a dharna at the entrance of the dam site on October 29. Our first demand was that before proceeding any further they first provide relief to the quake victims, but no one listened to us. Among other reasons we oppose this dam because its building involved dispossessing about one lakh people of their homes. Moreover, as the site of the dam is just behind the town, and very close to it, there is a lot of blasting at the dam site that has resulted in both physical and mental damage. These explosions must be stopped while people are still living there. Due to the explosions all the houses in the town have been shaken to their foundations, and have developed cracks. When these explosions occur, children cry and run out of their homes and people are forced to leave their homes fearing that they will collapse.

We asked them to stop these explosions while these people are still living there. Even if it were necessary for them to build the dam there, no government has the right to torture its citizens; these explosions are a form of torture.

There should be no construction of any big structure, such as this dam, in the Himalayan region as this is an area prone to earthquakes. As for their contention that nothing will happen to their dam as it is going to be very strong and safe, we ask them: how will our homes be protected? And even if they manage to build an earthquake-proof dam, what about the mountains? These are not earthquake proof. What will happen when these mountains crumble and fall into the dam - have they thought of the incredible destruction that will cause? And such incidents have happened - in 1963 in Italy the Vajont dam was destroyed in this manner and 2,000 people lost their lives. It is just the same as throwing a stone in a vessel full of water - the water is sure to overflow. The dam will be like a sword of death hanging over the heads of a crore of people who live below it. In case of a mishap, Rishikesh will be destroyed in 63 minutes and will be under 262 meters of water. The water will be moving at a rate of 100 kms per hour. At this rate Haridwar will be finished in the next 20 minutes. Meerut in six hours will be under 30 feet of water. Similarly, Bulandshahr and Delhi will also be affected. Scientists have estimated that public property worth Rs 20,000 crores will be destroyed.

The budget for the dam is now estimated at Rs 5,058 crores. Out of this Rs 680 crores has been spent so far. The construction of the dam has not yet started. Till now only the base of the dam has been cleared and they are scraping to raise the walls. This is why we



had to take this extreme step. We have been saying repeatedly: do not waste the money of the country.

The Russians who at one time had promised to finance the dam, do not have the money any longer. They have put in a rider -they will help us but the rate of interest will be 12.5 percent not 2.5 per cent - five times more. Further, the instalments will not be over a period of 70 years but of 20 years. Third, we will have to buy their machines for the money that they give us. Fourth, earlier the money was to be returned in rupee terms, but now it has to be returned in dollar terms.

Now the government is trying to get loans from various other sources.

*Who is really behind this?*

Contractors, politicians and engineers. For example, it is said that the chairman of the corporation formed for the dam is a relative of Kalpanath Rai, the Energy Minister.

*What has been the attitude of the Environment Minister?*

I cannot speak about him. What he is and what he is not, I have not been able to understand because he does not stand by what he says. In Parliament he said that the government will withdraw the scheme. But yesterday, when I met him, he said that the Prime Minister has taken the matter in his own hands and therefore he cannot do anything about it.

Apart from the Energy Minister there are his contractors -especially one particular contractor - Jaiprakash Industries - his fortune has changed as a result of his contract for work on the dam. Earlier he was a hired overseer in this area and now, within 20 years, he has become the owner of a Rs 1,300 crore company. These are the elements that are involved. You are well aware what money power is capable of doing.

*Since 1977 you have been making efforts to have this dam stopped. You have tried many methods of satyagraha. But your voice has not been heard so far. You have had to resort to this extreme step with still no assurance that the dam will be scrapped. Do you feel that in today's world your philosophy, that of Gandhian satyagraha, is effective or relevant?*

What other philosophy is there, I would like to know? I have an absolutely open mind. The fact of the matter is that today there are three methods available for solving problems. The first is the method of the establishment - through the machinery of law and order, the legislature and judiciary. How can we solve our problems this way when the government machinery is breaking down, when the system has failed the world over? This is true not only of democracies but also of socialist societies and dictatorships: all of them are breaking down because they have not been able to solve their society's problems.

The second method is that of terrorism. This kind of extremism has also failed because the state has collective might and individual terrorism cannot match the collective terrorism of the state.

Only one method remains. This method does no harm - at least it stops the degradation of human moral values. The other two methods not only claim human lives, they claim human values too - they are lethal for both. As for the third method, the one that I have

adopted, I agree that it has failed thus far, but at least it does not harm anyone. At the most it will harm one person only - and it will harm only his body, not him, because a fast is different from a hunger strike. A person on hunger strike (bhookh hartal) is angry, he is unhappy at someone. For example, Kaikayi went on a hunger strike and sulked angrily in her kopgriha. Hunger strike is undertaken by politicians. It is a tamsik way of protest. The rajsik way of protest is unshun (giving up food). But upvas (fasting) is a satvik course of action. It is undertaken by a devotee of God. Upvas involves leaving the vas in this world and going under God's protection. When a devotee feels that his worldly efforts have failed, he says: "God, I am now under your care." He has faith as he has heard stories of God and his devotees, like the one about Gajendia Moksha, of the elephant and the crocodile...

*Please tell the story, I do not know it?*

A very powerful crocodile once lived in a river. One day an elephant went to that river to drink water. He was very proud of his strength. The elephant's foot was caught in the mouth of the crocodile. A great fight started between the elephant and the crocodile. The crocodile was pulling the elephant into the water and the elephant was pulling the crocodile away from the water. A lot of commotion took place, a lot of water was splashed, and the earth began to shake. In the end the pride of the elephant was shattered and he began to call out "Krishna, Krishna". Then Krishna came and freed him. The elephant's prayers are known as Gajendra Moksha.

In one of the bhajans of Surdas it says that, for those who are blessed by God, even the impossible becomes possible. (Charan Kamal bandon harirai, jaki kripa pangu giri langhe, andhe ko sub kuchh darsai. Behro suni mook puni bole, runk chale sir chhatr dharai). Now Surdas was blind, and blind people have very sharp ears. He must have heard that in such and such village a lame person had crossed the mountains, a deaf person started hearing, a pauper became a king, et cetera. This way the experience of people has shown that through the devotion of God even the impossible becomes possible. It has been my own experience that when the will of the people is combined with the blessings of God, then all problems can be solved.

*I can see the devotion to God, but do you feel that the will of the people is with you?*

The situation today is that people are asleep. No one believes anyone. We have become intellectuals, and what is this intelligence? This commercialized intellect raises arguments - like the controversy going on in the papers - when I ask them why they don't print the truth about the matter, they say that they have to print both sides of the story. If one side is lying, it means that they are propagating lies when they present both sides. I have the belief that humans can be changed, and the power to change humans is in their hearts. Therefore the appeal of the fast is not to the minds of people but to their hearts,

*Your fast lasted 45 days. We were all concerned for your health and life. How did you endure the fasting?*

It was the most pleasant time for me. My undivided attention was towards God, and I had full faith in him. I had surrendered to the feet of the supreme power and when you totally surrender yourself to anyone, then where is the worry, as you are His responsibility?

*And He saved you?*

There must be some work of His that this body has still left to do. He told me to stay alive, but even if He had taken this body, then a lot that could not be done while this body is living might perhaps be achieved after this body is no more. There are many examples in history showing that what some people could not achieve in their lives, they achieved through their deaths just as my guru of public life Shridev Suman did.

I was 13 years old when I came in contact with him. He was a disciple of Gandhiji, a satyagrahi. He fought against the tyranny of our princely ruler who denied all civil liberties. When Sumandevji raised his voice against the tyranny, he was arrested for rebellion, jailed and persecuted. He said that he was fighting for civil liberties and started a fast in jail. He was placed in solitary confinement. When he refused food, he was whipped. Fetters weighing 25 seers were tied to his feet. In those circumstances he survived for 84 days. He died on the 84th day. His body was stuffed in a sack and thrown in the river. There was a lot of terror in the princely state at that time, but after Sumanji's death the awakening came.

He died on July 25, 1944. The dead Suman became far more influential than he ever was in his lifetime. That is why during the upvas, I was very happy within myself. There was no question of hunger. Rather now, even when my stomach is upset, I still insist on eating. Then I was in a state of bliss. I would pray to God: "O God, remove this danger to Gangamaiya and create restlessness in the hearts of those people who have to take decisions.

*Do you think this has happened?*

At least they have now recognised that the explosions must stop, that the people there should not have to live in a state of terror. They had closed their minds to reviewing whether this dam was indeed needed. Reviewing the question of building the dam had been closed. Now, at least, they are starting to understand that it should be reviewed.

A social worker has to learn from the sun. Even if all the doors and windows are closed and there is a small hole, the sun peeps in through there. I have found a hole to peep from and I will keep peeping. The result is in His hands. My job is shakti arjit karke shakti banane ka kaam (gather more people and try and energise them).

There must be a lot of demoralisation; many people in Tehri must feel that if after so many years of struggle their voice has not been heard, it won't be heard even now.

If they were demoralised, why would people continue with their struggle?

*Do you feel your movement is strong?*

A lot of money is being spent to weaken our movement. This money is working. Yet the common people, poorest of the poor, who have no voice, especially women, are with me - women are with me because in Tehri the struggle for life is being fought by women. That is why in my fight for prohibition and in the Chipko movement women were in the forefront. For men, money is the most important thing, but for a woman it is her earth, her culture; she loves her environment.

The Chipko movement has become an international mythology but it seems to me that more trees have been cut than saved in the land of Chipko. What is the situation according to you?

Those who have made it an international mythology are wicked people who have opened environmental shops in Delhi; they have to run their shops and have to hold conferences. Leave them aside. As to the question of whether trees have been saved or not: the ban imposed on commercial culling of green trees has been in force for 10 years. Earlier, lakhs of trees were being cut for commercial Use. The jungles have been saved, go and see where the effect has been felt.

*So you believe that it had an effect?*

One important thing that has happened is that there has been a basic change in the way people think. Ten years ago people used to say cut trees for development. Today everyone is saying plant trees for development. This is the basic change in the thought process. Another important thing is that the people are directly challenging the commercial tree planting policies of the government. If the Chipko movement hasn't spread to Bihar, why do the Jharkhand people say sal tree stands for Jharkhand and teak for Bihar? Some have called Chipko a preservation movement; some call it a peasant's movement, and so on. They try to fit it into their political ideology. Many books have been written on the movement, but very few have been able to understand the spirit of the movement.

*Did all those who wrote their theses on the movement or held conferences in it come forward to support you?*

A few did. But many more came to break the movement. Had it not been for such people, the movement would have been stronger. Another thing that they have done is to pump money into it government money, institutional money. They have made it into a department of government. What started as a voluntary action for change has become a Non Government Organisation (NGO).

Earlier the social worker used to be one of the people, and was sustained by the handfuls of rice they collected for him. The people now evaluate a social worker differently. They look at how much money he has brought, what new "development" schemes has he brought.

*In your view, did the advent of money bring with it fights and quarrels? Do you accept grants?*

I don't have any money, except the little that comes as donations. I think that an NGO is like a foreign plant from outside. In India, we do not have NGOs, we have Buddhas and Gandhis who challenge wrong policies, who revolt. They are supplementary to no one. For this reason some people came here for a gospel. I told them that the gospel of India is the same as that of Buddha and Gandhi.

*You had said in an interview that you get your strength from yog. Will you explain?*

Sitting with your eyes closed is not yog. Yog means to concentrate your thoughts on something. This comes slowly with practice. A karma yogi does not need solitude, he can meditate while being around people, in society. In reality there are two great things about Indian culture - one is Yog and the second, the Vedanta. Yog is incomplete without Vedanta. Yog is yoga without Vedanta, the kind that is sold and practiced in the west. The Yog of the Vedanta says that there is life in all beings - humans, birds, animals, trees, rivers, the mountains. So anyone who sees the world in this manner, his love will be all

encompassing. The trouble today is that we have love for a few and the rest are strangers in our eyes. The second tenet of the Vedanta is to love everyone, see God everywhere. The greatest practicing Vedantist in India, Swami Ramtirth, has written a poem in which he challenges death. He says, what harm can death do to me? You can only take my body away from me, but I- will be in leaves, in flowers, in branches, in water, in the songs of the birds.

When I was 13, Shridev Suman once asked me what I would do after studying. I replied that I would seek employment in the princely court. I am a native of the poorest district of India, where people only had one lion-cloth to wear at that time. He asked me, “then who will work for these people?” I replied that I will do that as well. He then asked: “how can one person have two Gods?” I did not have an answer and asked him to explain it to me. He said that I would have to work out the answer for myself, but I should give a serious thought as to whether I should sell myself for a few pieces of silver. So, I tell everyone that I decided not to sell myself for a few pieces of silver and decided to face the hardships of life. Thus I dedicated myself for the service of people.

### *Where did you study?*

Whatever I studied, I have forgotten. I have studied in the university and was amongst the brilliant students and toppers. But the first thing I did was to return my certificates to my elder brother because he expected that I would earn a lot of money and would work at a high post. One has to liberate oneself from these fetters, only then can you achieve self-realisation. A person with degrees wearing the convocation gowns covers his character with the gown. And the gown is black; nothing of his personality can peek through. Therefore, first remove and throw away the gown.

At the age of 13 I joined Gandhi’s movement. I believe’ that there should be something in life for which one should make efforts. The worst thing about our life today is that we have two personalities - one that is for our private life and the second that is for our public life. The first thing to do is to get rid of this dual personality - be the same outside as you are within and a lot of problems will be solved. Secondly, have a firm determination, so that whatever you want to accomplish, you are able to complete. If you want to understand this better then read the 12th chapter of the Bhagvad Gita. Today the conflict is between knowledge and wisdom. We have too much knowledge and very little or no wisdom. The train of knowledge is meeting with accidents; only if wisdom becomes its driver will it run well. And wisdom is the assembled experiences of common people, which they have gained from many generations.

### *What kind of help can educated city dwellers give your movement?*

Go and live with the people, run schools for small children. People will surely feed them what they eat themselves. Go and instil self confidence in the people. Those who do not have too much time to spare, let them come and join those sitting on protest (dharna) against the Tehri dam and experience how they are living in an open tent by the riverside. And it will be a free holiday in the mountains. Live in the mountains and you will escape the heat of Delhi. You will drink the ice cold water of the Bhagirathi, fresh, alive water.

Secondly, lies and misinformation are being spread that the people of Tehri are enemies of development, that they do not want the progress of the country that so much money has been spent on them and they just will waste it, that Delhi needs this water. Go

to each house in Delhi and tell them that the water from Tehri dam is the blood and tears of the people of Tehri. Sixteen people have lost their lives fighting against the dam. The people of Delhi should say that they do not want their water to come from tears and blood. If you want water for Delhi then ask them to save water that is, for example, being wasted in five star hotels. And give the poor an equal share of water. Water should be equally available to all, like air.

Thirdly, we have the responsibility of the campaign, we are poor people. There are about 3d to 32 families of the movement who have lost a member or members, or someone has been maimed. We have to look after them for the rest of their lives. Some have left small children behind them. Some people should arrange to cover the expenses of these children for at least the next 15-20 years. For example, someone could deposit Rs 15,000 in the child's name and the child would be able to receive monthly instalments to get to study.

People can collect small amounts and this can be used for the victims of bus accidents during this movement. We also need help in spreading information and awareness in order to carry our movement forward.

*One last question: Your wife told me that you resigned from the Congress at her behest at the time of marriage. Had you stayed on with the Congress party, as one of the oldest, foremost political workers of the area, you would probably have become the Chief Minister of U.P. long ago?*

Even while I was in the Congress party, I had very little inclination towards political power. I used to concentrate on constructive social work. For instance, I began Harijan seva at a time when untouchability was a very serious problem in our area. I would go to the bhangi bastis (neighbourhood of untouchables) and take classes. For this I faced a great deal of opposition. I went on to establish a hostel for harijan students. Even in my village work I focussed on constructive activities. I realised that those who want to do seva should not get into party politics.

The inevitable logic of party politics is that you must support your own party men, no matter how bad they may be and you must oppose and trouble those who are in the opposition even if they are doing good work. That is why I left it.

*Have you ever come to regret that decision?*

No, I was very happy when I left Congress because party work brought a lot of tensions. When on the day of my marriage I announced my decision to renounce party politics, I felt a sense of peace. Inner happiness comes from real samaj seva (serving society). That happiness enables a social worker to face the worst of hardships cheerfully. In fact, hardships strengthen a genuine social worker in the same way as iron gets to be steeled, when it is beaten upon.

### *Section III Articles by Sunderlal Bahuguna*

1. What Man does to Mountain, and to Man:

A Healing Message for Violent Times (Future, 1983 first quarter)

2. Tehri Dam: A Blueprint for Disaster (Imprint, April 1988)



3. Towards Basic Change in Land use
4. Peoples Programme for Change
5. The Crisis of Civilization and the Message of Culture in the Context of Environment.
6. Technical Education and the Environment
7. The Crisis of Democracy and the Way Out.
8. Priorities of IX Plan - A Grassroots view
9. The Voice of the Birds — A Tribute to Dr. Salim Ali
10. Development and Environment
11. Saving the Bugyal and Gomukh Region

### *What Man does to Mountain, and to Man:*

#### *A Healing Message for Violent Times*

*[Trees and people are being systematically uprooted from the southern slope of the Himalaya. Like the loosened fertile top soil, impoverished families too drift downward to the plains.*

*Why does this continue? And how can it be stopped? A long time campaigner for ecological sanity, Sunderlal Bahuguna lately walked the length of the Himalayan foothills. He was accompanied by a small group of young men moved by a vision of harmony between man and nature. With breaks during rain and snow, the journey stretched from mid 1981 to early 1983. A distance of 4870 kilometres was done in 300 days.*

*From Srinagar in Kashmir, they went on foot through Himachal Pradesh, Uttar Pradesh, Nepal, West Bengal, Sikkim, Bhutan, Arunachal and Assam to reach Kohima in Nagaland. At each place, they were joined by eager villagers. School children thronged to hear them. Government officials exchanged notes with them. All but those with a vested interest in cutting the Himalaya to the bone appeared alive to the damage done to the support of their lives.*

*Bahuguna prefaces what he saw and heard with a perspective on the crisis. He concludes with his views on what awaits to be done, through struggle, cooperation and restoration —Editor]*

### *Walking with a message*

As children of the Chipko movement, the aim of our journey was to spread its simple message: “Save humankind by saving the trees”. Nowhere is its relevance more real than in the Himalaya; for the lives of hundreds of millions in the highlands and plains are affected by the ongoing degradation of the natural environment.

We tried to stimulate the awareness of people about the nature of the exploitation to which their forests and, therefore, their lives were being exposed; and to increase their own capacity to end it.

In this, we were helped by the lesson learned half-way through what has come to be called the Chipko movement. Literally, chipko is to 'hug' (the tree) and thereby save it from being cut down.

### A 'Chipko' lesson

This lesson would bear recounting. Contractors, nominated by the government, were the traditional instrument of rapacious exploitation of forest wealth without a thought for the future. The danger was driven home by the flash flood in the Alaknanda, in 1970, when the fury of the monsoon working on denuded slopes triggered gigantic landslides. Naturally, the first of the people's demands was supply of raw material to local small scale cooperative industries at concessional prices. The historic demonstration in April 1973 at the Mandal village in Chamoli district (in Uttar Pradesh) sparked a series of protests. But the focus and nature of the protest and the power behind it have since changed significantly.

Around 1977, the Chipko activities began to reconsider the basis of their demands. Soil, water and pure air, uniquely offered by forests, are surely more valuable than resin, timber and foreign exchange. Whether the latter ever benefits local people is another matter. This realisation came to hill women who continue to struggle through life fetching firewood, fodder, water, wild roots, fruits and nuts.

### Waking up to values

The women's awakening was not sudden. Way back in 1730, a group of 363 men and women, led by an illiterate village woman, sacrificed their lives and saved the trees of the Khejadli village of Jodhpur. Earlier this century, two of Gandhi's disciples, Sarala Behn (Catherine Mary Heilman) and Mira Behn (Madeleine Slade) worked among women in the highlands of Uttar Pradesh, raising the consciousness of people against commercial exploitation of forests, the dangerous change-over from the oak to pine and eucalyptus, the threat of flood and of the downhill slide of topsoil and uprooted people. (Both the ladies died in July 1982, well past eighty, one at Almora (India) and the other in Austria. They carried forward the opportunity Gandhi had opened up for women to come into their own by participating in a movement beyond the threshold of their homes. "If non-violence is the law of our being, the future is with women", he had said.

### Economics to ecology

It is women who redirected the thrust of the Chipko movement from a purely economic demand of the forest dwellers' right to forest resources towards an ecological vision of a stable and mature relationship between man and nature. The axing of the Himalaya is happening in its own peculiar context, but the action needed to stop it is no different from the struggles worldwide against the spreading deserts of man's making - in Sweden, West Germany, Kenya and Papua New Guinea.

It was not yesterday that the destruction started in the Himalaya or elsewhere. Ever since man took to farming and settled life, forests have been a source of fuel, timber and food. Came the industrial revolution, and forest wealth began to be exploited faster than ever before. For example, when Britain's oak forests were depleted by shipbuilding, a ready substitute was found in the teak forests of what is now Kerala. The spread of railways took a heavier toll of trees. Trees with broad leaves made way for trees yielding commercial timber and chir pines supplying resin for the turpentine industry. This trend



against natural forests has strengthened with time. An increasingly materialist civilisation has taken to manipulation of nature beyond sustainable limits.

### Man-made deserts

The man-made deserts are spreading. In India, for example, 23 per cent of the land area is assumed to be forest, but half of it is no more so; and good forests are about 30 million hectares. Civilisations disappear when the life-support system withers. It cannot be said that we have had no warning.

### Soil and water

For the people, farming is not an industry but a way of life. Soil and water are basic to their prosperity. These two factors depend as much on proper land use and farm practices as on the preservation of natural forests which increase the capacity of catchment areas to attract rains, retain water and limit surface flow. “The forest is a community of living things; of them, the tree is the biggest”, said St Barbe Baker, the “Man of the Trees”. It makes sense to make friends with trees.

### Kashmir

We started on our journey from Kashmir, with the good wishes of government leaders, scientists, journalists and others, all of whom were convinced that forests were not for felling. Indeed we saw thick forests in the catchments of Jhelum and Chenab, but as we reached the southern slopes of the Chenab valley, the tree line was fast receding and streams had turned paddy fields on either side into spreads of sand and pebble.

Commercial exploitation of forests started a hundred years ago, but until India became independent, it was limited to a few accessible areas, from where timber could be floated down the river. Moreover, the forests were virgin with a large number of mature trees. But motor roads and ropeways have come up to transport timber from wherever it can be had. And the State Forest Corporation is not far behind the contractors at work for the third generation. Saw mills are allowed even in the remote interior. As road-making progresses, trees disappear permanently. So too wild life and plants and herbs. The damage done by “development” to the environment remains to be assessed.

Commercial exploitation when it stops short of clear felling leaves behind trees of uniform age. With the big trees gone, the younger ones cannot withstand snow and avalanches, like in 1979. There was not even a reliable counting of trees destroyed at the time. Faulty forestry practices have led to mass casualty of trees. Switzerland has shown the way to protect forests against heavy snow. Nature is fierce only when excessive harm is done to it.

At the confluence of rivulets and on the roadside, logs are piled up and trucks plied day and night transporting timber to Jammu. Side by side, over extraction of resin has led to the decline of pine forests. Again, on the plea of fast growth and easy yield, eucalyptus has made inroads into Jammu, as indeed it has throughout India up to Wynaad in Kerala. Experiments in Sahara show that this tree sucks up huge quantities of water. Unfit even for birds to make a nest, it leaves the land poorer for its brief tenure. Among the many causes of damage to forests in Jammu and Kashmir are indiscriminate grazing and cultivation of food grains on hill slopes leading to erosion of top soil. The steady rise in population spurs these trends. Developmental priorities must change to give priority to

forest conservation and tree farming. Preference has to be given to trees that yield food, fodder, fuel, fertilizer and fibre, to trees and plants and crops that sustain each other by refertilising the soil. The terrain and climate of Jammu and Kashmir favour such a change in direction. In a state where over half the area is still covered with forests, forestry education should be part of the curriculum from nursery to university. Mixed forests must be preserved and promoted and monoculture avoided, as in Switzerland which maintains a 3:2 ratio between conifer and beech. Energy needs will have to be met through generation of power from decentralised community projects, and trees saved from being slaughtered for firewood. And, the destruction of trees in the name of road construction for hill development must be ended. One way to do so is for the public works and forest departments to work in coordination. Another would be to prefer ropeways and tunnels to long zigzag roads that cut into hillsides and are costly in many ways.

### Himachal

The story of Kashmir broadly repeats in the other Himalayan states. Most of Himachal Pradesh was covered with thick forests about 150 years ago. The clearing of the forests began with their state management on a commercial basis. The river valleys like those of Ravi, Beas and Sutlej were the first prey to clear felling. Forest revenue leaped as devastation of forests moved to scale. Though felling of trees on private land was formally stopped in 1977, political pressure led to easing of restrictions; a new business class with organic links with politics profited enormously from illicit timber.

The apple production of Himachal Pradesh (2.5 million tonnes) is over a third of India's total. This has brought prosperity to the State but taken a dual toll on forests. Apart from forests being cleared to raise apple gardens, they meet the timber requirement for packing cases for apple - 150,000 cubic metres, or a hundred thousand trees felled each year for the purpose. Yet another threat to Himachal forests is the bobbin shuttle industry. Hornbeam is tree yielding precious fodder in the lean season. And its steady destruction is leading to a fodder famine. The depleted forests of Himachal recall E.F. Schumacher's warning about economics becoming religion.

A consequence of the denuding of the Himachal forests is the drying up or change of tributaries, silting of reservoirs downstream and scarcity of water for power generation.

### Uttar Pradesh

There is a temporary ban on felling of trees in the hills over 1000 metres in Uttar Pradesh. Vested interests are working for removing it. Two thirds of the hill area is assumed to be covered with forests, but mixed forests are increasingly being turned into coniferous forests. The forest department invests probably the lowest amount per hectare for forest development for any Indian state. The emphasis is on raising new plantations, but unfortunately most of them are of conifers which have pushed the once prosperous hill villages into poverty. The thick oak forests which have an excellent capacity to conserve water have been turned into timber mines, as in Uttar Kashi. The casualty of pine is so high due to resin tapping that the Slate Forest Corporation reaps high profits from the sale of innumerable dead, dying and diseased trees.

In the plains of Uttar Pradesh, a meagre seven percent of the area is covered by forests, against the figure of 20 per cent recommended by experts. Eucalyptus plantations

are being raised in the terai. Paper mills are coming up in this region. But the prosperity of the terai has devastating effects on its ecology. What was once a damp area is now dry and hot? The temperature of Naini Tal has risen in recent years, the wild life has disappeared, and the bee population has dwindled in an area once plentiful in honey. A hopeful trend in Uttar Pradesh is the high level of consciousness among village women about the value of forests as a support.

### Nepal

In Nepal the pressure of population and the struggle for living have forced people from the hills to flood the terai. Massive colonising programmes have been started in the terai - by cutting down whatever forests remain. Saw mills have mushroomed and the new settlers who were once afraid of the tigers and hyenas in this region now find even firewood scarce. Stumps of sal, khair and other trees are being used up in the search for firewood, after exhausting branches and whole trees and the refuse from saw mills. Roots may be dug out next. What after that, one does not know. On the road to Kathmandu we saw slopes being cultivated inviting soil erosion in already eroded areas. In the eastern terai, forests were clear felled long ago and commercial species are being planted for quick money.

The forest cover in this part of the country has shrunk to around 3 per cent. New townships have come up, described rather cheekily as 'growth centres'. Once a forest is clear-felled, its regeneration never happens. Present prosperity for a few forbodes future poverty for the many.

One hopeful sign is that the young generation, students and others, seem to understand the implications of a Nepal without the green forests which were once its pride and wealth. Another is that Nepal is not repeating India's folly by planting eucalyptus. There is a close parallel in the current fate of chir pine forests in Nepal and those of the western Himalaya. Both are subjected to resin tapping to the bitter end. Also, a feature in common for the two areas is the growing dominance of a single species like chir pines, which impoverish the soil, deplete its water and increase its acidity. On a rough estimate 240 million tonnes of precious top soil is lost by Nepal every year. This has raised the river beds in the foothills where floods have become regular. The ecological principle that "men follow the soil" literally applies to Nepal. Large numbers of people have left their homes in the hills in search of food, fodder, even water.

People have begun, in however modest a way, action to conserve forests. In more than one village community, guards protect their forest heritage. Alternative sources of energy and efficient methods of using fuel, together with a prudent pattern of tree plantation, with preference to food trees could be the beginning of an end to Nepal's downhill ecological slide. A national committee for man and biosphere<sup>1</sup> has been formed. The government is conscious of the conspiracy of several factors against the country's ecological balance: population growth, poverty, unplanned urbanisation on agricultural land, unscientific resettlements, and indiscriminate destruction of forest resources.

### Bengal

Darjeeling in West Bengal was once an area filled to the brim with natural forests. Over the last century, much of them have been replaced by tea plantations or by trees imported for their ornate looks. Lately the West Bengal government has handed over the

management of hill forests to the State Forest Corporation. To make quick money, the corporation has started systematic felling. This has accelerated erosion and changed the flow of river water. There is some hope in that a local conservation group seems determined to save whatever forests are left in the Darjeeling district from an undeserved fate.

### Sikkim

Sikkim had rich natural forests but construction of new roads and the sudden increase in population in the northern region have destroyed enough virgin forests for landslides to have become regular. Commercial exploitation is picking up as elsewhere in the Himalayan region.

### Bhutan

Natural forests and wild life are well preserved in Bhutan except close to the Indian border where timber and firewood smugglers seem to flourish. The government took an interest in our mission and deputed forest officers to walk with us. Bhutan has fairly strict conservation laws. A number of deer parks and wildlife sanctuaries have been established. In spite of these measures forests have been lost due to heavy felling for timber. Commercial exploitation of conifers is increasing. Extraction of resin is picking up in the eastern region. A distressing sight was a four square kilometre desert created by a dolomite quarry, in the foothills near Pagali. It is spreading south. The natural forests of Bhutan provide rich fodder for cows and yaks. Which explains the abundance of cheese and butter in several areas, reminiscent of life in the Swiss Alps. But unlike in Switzerland, the sight of tree stumps disfigures the landscape.

### Arunachal

At Tawang in Arunachal Pradesh, we saw people digging up roots of stumps for firewood. Increasing population and extension of townships is taking a toll of forests both for timber and firewood. Wherever motor roads reach, felling of trees has started. A number of saw mills and plywood factories are fast coming up in the south and the east, spelling erosion and in the longer term destroying the quality of life of the local people. Unless the pace of destruction is checked, 'there will be no forests in Arunachal in ten years', said a minister of government.

### Assam

Tea plantations and plywood factories have between them eaten up much of the forests of Assam. In what can only be called a parody of development. People are aware of the permanent damage but are able to do little more than recall that 'once upon a time there was a forest'. Forests have vanished during the past three decades, even as plywood has been finding a growing market in the cities of India.

### Nagaland

Like in Arunachal, forests are owned by village communities in Nagaland. Yet in most of the villages the pace of destruction is fast, a fact acknowledged by the government. At a few places like Changki, forests are protected and new plantations are being raised.

### Dimensions of damage

The ecological crisis in the Himalaya must open the eyes of people in both hills and plains. Glaciers are receding, hill slopes are becoming barren, rivers and lakes are turning muddy, and the valleys are turning into deserts. Water sources are drying up and drinking water scarcity is real except in the Kashmir valley, Bhutan and parts of Arunachal. The flow of rivers has become irregular. Floods have become a regular feature. Soil erosion is followed by migration of people. Children of 8 to 10 years go faraway to fetch firewood rather than to school. Mixed forests have been turned into pine forests, and pine forests into near deserts. People have become poorer and they migrate in search of a living.

### **Crisis of civilisation**

The Himalayan crisis is not an isolated event. It has roots in the materialistic civilisation, in the spiralling of demands, ever increasing but never satisfied. Even the renewable resources have become non-renewable due to over exploitation. The air and water pollution, acid rains and barren stretches, familiar today in many countries, are the gifts of this civilisation.

### **Way to sanity**

The immediate need is to preserve whatever forests remain but the viable answer to the ecological imbalance is to adopt a new development strategy in which man and nature coexist in harmony. This in turn is possible only if small communities are allowed to meet their own basic needs. The perils of centralised production systems were anticipated at the beginning of this century. As we move towards its end, the challenge is to implement a programme of survival, to which the life-supporting role of forest is integral.

Alternative sources of fuel and energy and efficient ways of using them are known. There is also no lack of expertise in proper forest management. But there is little identity of interest as between the people and those who control forests and other resources. The only way to redeem forests from the combination of corrupting contractors, corrupt politicians and corruptible officials is to vest their control openly with the community, with government in an overseeing role. It would then be possible to protect and 'exploit' them in a socially acceptable manner; and to summon the blessings of science in the service of the people.

### **Tehri Dam: A Blueprint for Disaster**

Nestling at the foot of the majestic Himalayas is the abode of the Gods - Devbhumi or Garhwal. Visited by Pilgrims for its holy Hindu and Sikh shrines - Badrinath, Kedarnath and Hemkund Sahib - and graced by the most venerated rivers in India's cultural history, the Ganga and the Jamuna. The lower slopes of these mountains boast the beautiful hill-stations of Lansdowne and Mussoorie, dotted with the exotic brahmakamal - the rainbow-hued rhododendron - and the breathtaking blue poppy, and where the elegant kastura or musk deer and the elusive snow leopard run wild in the fertile pastures and forests.

Bespoiling the rich and bountiful landscape are the tokens of development run amok since the 50s when the expansionist Chinese presence on Garhwal's borders brought about dramatic changes in the state. In 1974, when the restrictions on entry into the forbidden zone were relaxed, development went berserk. Large-scale road building

placed the fragile Himalayan eco-system under stress, and reactivated ancient landslip belts.

There is a legend that the waters of the Bhagirathi can be contained only within the matted locks of Lord Shiva. The locks are the natural forests of the Himalayas which help contain the water in the soil and protect the land from floods. The villagers believe that if there is any attempt to interfere with the flow of this sacred water, the Bhagirathi will exact a terrible vengeance. Gunanand, a resident of Pipola village, which will lose half its land to the reservoir, pointed out that already the reckless exploitation of the forest-the matted locks-had denuded the hills. Some forest pockets have been preserved near the village by the villagers themselves but the rest only have a superficial grass cover.

Indeed, the catchment area of the Bhagirathi has been the worst victim of deforestation because the commercial exploitation of the Himalayan forests began way back in the middle of the last century when an Englishman, Fredrick Wilson, felled local trees and floated timber to Hardwar. Few efforts had been made to reforest the belt, and instead, agricultural cultivation was extended to the top of the hills, thus accelerating the rate of erosion.

But these dangers are insignificant when compared to those of building a dam at Tehri; a dam that disregards the poetic but grim utterances of the Devistotra (a Hindu text in praise of the supreme goddess): "So long as this land will have mountains, forests and pastures, so long will the earth survive." With the construction of the Tehri dam this no longer seems possible.

The small town of Tehri, situated at the confluence of the Bhagirathi and Bhilangana rivers and well-known for being the seat of Garhwali culture, has today received acclaim for different reasons: it will soon boast the highest dam in India. The rock-fill dam - the first among a series of dams over the Ganga and its tributaries in the Central Himalayas - will be constructed on a turnkey basis by the USSR. Besides generating 2400 megawatts of electricity, it will irrigate 2.7 lakh hectares of land in the western districts of Uttar Pradesh and has been described as the symbol of progress and prosperity by the Tehri Dam Project authorities. For the benefit of passers-by, they have painted slogans reiterating this on the backs of their vehicles.

For visitors to the area, the writings on the wall, the slogans painted by the villagers, are plainly visible: "Tehri dam is the symbol of total destruction. Give up the construction of Tehri dam in the interests of the country and for the protection of the environment." Some of these slogans are written, in Hindi, on the walls of a small Shiva and Hanuman temple situated at the entrance of the right-bank diversion tunnels of Tehri dam, where sits Kadambari Devi, the heroine of the successful anti-liquor movement launched by hill women in 1971 and wife of Mr Virendra Datta Saklani, local MLA, veteran freedom fighter and President of the Tehri Bandh Virodhi Sangharsh Samiti. Kadambari Devi is confident that the Tehri dam will never be erected, and on the strength of this conviction, she sits and offers daily prayers at the temple.

Two decades ago, plans to construct a dam in the Bhagirathi valley raised hopes in Tehri that the poverty of the people would be submerged along with the valley. The hopes were short-lived. It was not long before a copy of the report fell into the hands of a local resident and road contractor, Prem Singh, who was quick to realise the grave

dangers that the construction of the dam would pose to local residents and the ecological balance: "For the first time we realised the dangers facing us. Everything in India is a secret in the national interest'. Had we not got hold of the report, we would never have known of the faults, tears etc in the region, and the disaster facing us. We immediately formed the Tehri Bandh Virodhi Sangharsh Samiti to oppose it."

When officers of the UP government and engineers arrived to inaugurate the construction of the first diversion tunnel of the dam in early 1978, they were confronted not with the drums of welcome but the drums of war. Thousands of men, women and children blocked their way; many, including Virendra Datta Saklani, were arrested and the town of Tehri was converted into a police cantonment. The construction of the 'temple to prosperity' was marked with the outburst of the people's rage: "You love electricity, we love our soil..."

Virendra Datta Saklani, the veteran freedom fighter, took upon himself the painstaking task of acquiring reports pertaining to the dam construction, made a thorough study of every aspect of the project, inviting acknowledged experts from relevant disciplines to visit the project site and offer their objective, scientific opinion. With meticulous care, he compiled voluminous documents and petitions for submission to Parliament and to the Supreme Court, mobilising people to educate and alert them to the enormous risks and dangers of the dam project.

In 1978, the committee suspended its agitation after collecting 10,000 signatures for a petition submitted to the Parliament's Petition Committee. The writ petition filed in the Supreme Court of India, which branded the construction as a "criminal act and an unpardonable ecological sin", was filed only in 1987 by Samiti President Virendra Datta Saklani, Vidya Sagar (Secretary of the district), the CPI, and myself.

The Indian National Trust for Art and Cultural Heritage (INTACH), which is also committed to the cause of indigenous, under-privileged people, decided to intervene on behalf of the people in support of the writ petition against the dam. Another conservation organisation, the World Wildlife Fund-India (WWF), also joined in. And two of the country's most eminent lawyers, Soli Sorabji and Fali Nariman, agreed to appear on behalf of INTACH and WWF-India respectively.

The construction of the Tehri dam was challenged on a number of grounds, chiefly that it would pose a grave threat to the lives and property of the inhabitants of towns like Muni-ki-reti, Rishikesh, Hardwar, and others situated on the banks of the Ganga downstream. The dam is to be located in a seismically active, technically unsuitable, arid area, with a high probability of failure due to natural and reservoir-triggered earthquakes. The dam will also pose a hazard to the security and safety of those heavily-populated areas in the flood-plains of the Ganges in case of man-made flash floods following emergency releases from the reservoir at the time of peak floods.

High siltation will, in all probability, further shorten the life of the Tehri dam and although the dam authorities claim that they have allotted sufficient money for afforestation, there is little hope of re-greening the almost bare Himalayan valleys, even in the next hundred years.

The reservoir rim slopes are also ringed by human settlements. The hills here are very steep, unstable, fragile, erodable, and fissured. The study on slope stability undertaken by

the Wadia Institute of Himalayan Geology states that “by virtue of its composition and structure, the rocks are generally weak and fragile. Top exposures are invariably highly cleared and weathered. A combination of these factors makes the area vulnerable to slope failure when impounded water comes into contact with it, and insecurity to the settlements in the periphery of the reservoir is inevitable.”

In addition to these factors, the fact that the dam is to be located barely 172 km from the Chinese border cannot be overlooked. In the petition, Mr Saklani had stressed that the project would constitute a security risk and the presence of Russians would create problems for the locals.

Saklani has also pointed to the very real dangers of constructing large dams: “The International Commission Report on Large Dams (1973) reveals that out of 10,000 dams constructed in various parts of the world, at least 466 suffered accidents, and of these 140 were total failures.

“In India, distress has occurred in as many as 41 dams and more than 14 have failed totally. The Kadam dam failed in 1958, Nanaksagar in 1967, Chikahole in 1972, Dantwala in 1973, Aran in 1978. The Panchet dam, which failed in 1961, is said to be the biggest dam disaster in this country. The Hinglow dam failed in August 1978, which led to the destruction of hundreds of villages in Birbhum, Bardwan and Murshidabad in West Bengal, and took a heavy toll of human lives and cattle. The Morvi dam disaster of 1979 is still fresh in our memories.”

Several hearings of the case have already taken place, inevitably resulting in postponements. However, if we succeed in winning the case, it will set an important precedent, for never before have environmentalists been able to successfully thwart the construction of large-scale projects like these.

In the entire project, stress has been laid on the technological aspect of the construction of the hydro-power complex, the positive aspects of development, and the benefits that will accrue to the state. Extensive studies have been conducted; plans designed and re-designed; yet no such studies have been made on the humanitarian aspects of its construction. And the report submitted by the Working Group, which does point to these problems, has been ignored. When such colossal projects are launched without due consideration to the havoc they will wreak on the local populace, the decisions taken become cruel and unthinking and are detrimental to the national interest in the long run. After all, when development is being undertaken in the name of the people, and for the eventual welfare of the people, it must reflect it.

The psychological impact of such projects on the local population is the fostering of a feeling of subjugation. We, in Garhwal, feel we are being sacrificed for the benefit of the big cities, industries, and socially and economically advanced groups. In India, big dams are being constructed in hilly and tribal areas which, due to the negligence of colonialism and subsequently, that of our governments, have remained isolated and neglected. We feel that such dams pose a grave threat to civilisation, and we have made appeals to international funding agencies not to finance such dangerous ventures. Our people are being made permanent oustees; we must safeguard theirs and our interests. The oustees of Bhakra have not yet been fully resettled, those from Pong have been driven away from



Rajasthan, and those residents of Bodhghat, whose lands were taken away for buildings, are still wandering in search of land, and destroying local forests in the process.

Sunil K Roy, Chairman of the Working Group that appraised the project, quoted the Energy Minister, Vasant Sathe, who had said, “all project costs have been considered but not the human factor.” In his letter to T.N. Seshan, Secretary to the Department of Environment, S.K. Roy echoed this: “this is conspicuously so in the case of the Tehri Dam project... no particular effort was required, just a modicum of humanity beyond the application of colonial bureaucratic norms, and some slight understanding of the socio-cultural and economic pattern in hill villages. Apart from the dislocation of local lifestyle, which is considerable, the oustees are uprooted, and almost literally, scattered on a dust heap.”

S.K. Roy made some other damning observations: “I regret having to record my considered view that virtually no importance has been given to the many varied and significant aspects of the complex relationship between the construction of a high dam on one of the world’s most important rivers, and either the human or natural environment upstream and downstream of the Tehri Dam.

“This is the first detailed environmental assessment of a major water resource project which could have made an important contribution. Here also, an opportunity has been lost to consider the larger, long-term national interest in harnessing the water resources potential of the Himalayas, ensuring the economic well being of the impoverished hill peoples, and, simultaneously, conserving the environment for sustainable development and the future agricultural potential of the rich soils of the Gangetic plain. All of which is threatened by the uni-dimensional drive for development without environmental considerations. I have, from the outset, held the view that work should be halted on the Tehri Dam but lacked an adequate data base. Now I consider this is essential as it is clear that the extensive environmental recommendations will be largely ignored - as they were in the case of those in the Interim Report...”

It is indeed a matter of grave concern that despite the recommendations made by the Working Group, the government has insisted on ploughing ahead. Construction has already begun although temporarily halted owing to the Soviets’ insistence on a re-design, and villagers are already being relocated in the New Tehri Township. But they are reluctant to leave their homes, their ancestral lands. According to the Roy Committee figures, a total of 8,680 families (about 70,000 people) will be affected by the construction of the dam; of these, 3,968 families will be entirely displaced because over 50 per cent of their land is being acquired. The authorities require 9,000 acres of land for rehabilitation purposes of which 4,000 acres have already been acquired. When I met a few families in Pathari in Saharanpur district and some in Bhaniawala, Dehradun, the women had tears in their eyes when they spoke of how they had lost the freedom with which they had roamed the hillsides and local forests: “We are here in a cage. There are no hills around us, no Ganga.”

And conditions leave much to be desired. Let alone the free irrigation promised by the government, the people, once used to an assured supply of drinking water from the streams that cascaded down the hills, do not have an adequate supply of drinking water in Bhaniawala; two of the available four tube-wells have also failed.

There is also considerable dissatisfaction with the amount of compensation offered by the project authorities: 2 acres of land per family. Lokendra Datta Saklani, local MLA, made a valid point when he declared that since the cost of construction of the dam has escalated from Rs 197 crore to nearly Rs 2,500 crore, there was little justification for the amount of compensation remaining stagnant as per original 1978 figures.

There is another grievance. Upto now, the displaced families have not been given ownership rights to the land that they have been rehoused on, whereas they used to own the land that they lived and worked on in Tehri. They were merely installed on the land physically and their names entered in a register. Villagers are also unhappy with the selection of the site of the New Tehri Township, as cracks are already evident in some of the buildings.

Tehri Garhwal has been the cradle of an ancient Garhwali culture and has given birth to eminent poets, scholars and artists. The Vedantic Saint, Swami Ram Tirtha, took 'sanyas' here and lived near Tehri, which thus achieved international significance as a place of deep spiritual value and inspiration. Freedom lovers have been inspired by the historic martyrdom of Sridev Suman following an 84-day fast in Tehri jail in defence of civil liberties; adventurers have drawn inspiration from the ancestral home of the two brothers, Major Harsh and Jai Bahuguna, who sacrificed their lives for the country on Mount Everest.

The dam will wipe out this rich heritage. Tehri dam, if constructed, will stand as a monument to the greatest folly of the twentieth century.

Today, construction work on the dam has been temporarily suspended as the Soviets have a new design for the dam which, they insist, the government must approve and accept. V.D. Saklani echoes all our concerns when he says: "We are not sure what will happen tomorrow... the lives of people are being played with, like a game. No good will come of this. I am praying that the dam 'will be turned down by the courts, and if it goes ahead, I pray it will stay firm."

(From Imprint, April 1988)

### **Towards Basic Changes in Land Use**

Devastating floods, the siltation of reservoirs, excessive soil erosion, droughts and water scarcity in low lying areas have forced planners and policy makers to review the development strategies for hill and mountain areas. Yet this situation has arisen as a result of at least 100 years of faulty land use in the Himalayas. The highlanders have been a relatively prosperous people and the source of their prosperity was the natural forest managed by village communities. These were mixed forests - conifers with broad-leaved species providing wild fruits, roots, honey, vegetables, fodder and fibre. Walton wrote in the Gazetteer of Almora district: "The hill man is indeed specially blessed by the presence in almost every jungle of fruits, vegetables and roots to help him over a period of moderate scarcity."<sup>1</sup> "The people were well off and they used to export wheat, rice, coarse grains, oil seeds, ginger, saffron, herbs, walnut, handmade paper, copper rods, musk, honey, ghee, woollen clothes, cows, bulls, ponies etc., in the markets of the

foothills and imported only gur (molasses) and cotton cloth.” (Trail, 1825) Lt. Col. Pitcher, who was appointed to enquire into the condition of the lower classes, reported in 1838, “The peasants of Garhwal and Kumaon are better off than the peasants in any part of the world, who neither live in such well-built houses, nor are so well-dressed as the peasants of Kumaon. Coarse grains, which were the staple food of the common people, were sold at the rate of 40 seers a rupee. Wild fruits and vegetables were available in abundance for six months in the neighbouring forests, but the common people of this area do not care to collect these.”

In the middle of the last century the commercial exploitation of forests in the Himalaya was started by the British and the Princely States. Timber was needed for railway lines and the hill rivers were ideal for floating timber down to the plains. The first to start commercial exploitation of Himalayan forests was a British hunter, Wilson, to whom the forests of the Bhagirathi (Ganga) valley were leased by the ruler of Tehri Garhwal from 1850 to 1864. This resulted in the ruthless, uncontrolled and destructive felling of the chir (*Pinus roxburghii*) and deodar (*Cedrus deodara*) forests. Unregulated felling continued for the next 20 years. It was a similar situation in the whole hilly region of the western Himalaya, from Kashmir to the border of Nepal. Forests, once clear-felled over steep slopes in the hilly catchment areas of the rivers never regenerated. That is why some desert conditions still prevail in the catchment areas of the Chenab, Ravi, Sutlej and the Ganga and its tributaries in the middle hills.

The other aspect of the situation was the transfer of ownership and control of the forests. Forests owned, used and managed by the communities were taken over by the state. When this was resisted by the people, they were offered land for cultivation. Previously their main occupation was cattle rearing. The hill men used to migrate with their cattle to the foothills during the winter. With the extension of agriculture, agricultural land in Garhwal region alone increased by 20 per cent between 1823 and 1858. The forests were divided into three categories: (i) reserved forests, totally controlled and managed by the forest department; (ii) civil forests, managed by the revenue authorities, and (iii) panchayat forests, managed by the village communities. Reserved forests were managed mainly to earn revenue and were gradually converted into chir pine and deodar forests for revenue earning timber and resin. The management system was such that other species were regarded as weeds and were eliminated. These broad-leaved species like oak, kafal, sandan, Bauhinia, Ficus, hatab, etc., which supplied fodder and fuel to the local villagers, disappeared. Chir pine forests are prone to fire and as the management system indulged in controlled burning in these forests there was no moisture to help other species to regenerate. Meanwhile stretches of oak, which has no commercial value, were replaced by chir pine.

The change in tree species had a disastrous effect on local ecology and economy. The pressure of grazing and meeting the other requirements of the local communities fell upon the civil and community forests which disappeared in no time. Water sources dried up, erosion was accelerated and the process of fertile soil manufacture in the forests was greatly hindered, because forests are acidic and “the rate of decomposition of pine leaf litter is considerably lower than that of other species.”

A decline in the fertility of land and an increase in population resulted in further deforestation. Almost all over the Himalaya hungry people have encroached upon forest

Sand. In some states, encouraged by politicians who urged people to “kato aur kamao” (fell trees and earn money), they felled trees first to cultivate potatoes and later apples. This practice is still prevalent in Himachal Pradesh. In other areas like Poonch and Rajauri of Jammu and Kashmir, they cultivated corn. Available data on encroachment during the last four decades is as follows:

Himachal Pradesh,	17,990 hectares
Jammu & Kashmir,	8,700
Uttar Pradesh	43,400

Besides this, vast forest areas were clear-felled and allocated for planting apple orchards.

The other aspect of commercial exploitation has been resin tapping from chir pine trees. The state governments tapped the trees to death and the number of dead trees is much higher in all the three Himalayan states of India, than of green trees which were felled ten years ago.

While 60 per cent of the area in the hills is required to be under forest cover, the central Himalayas, comprising the eight hill districts of U.P. have only 28.7 per cent.” In Himachal Pradesh it is 17 per cent; furthermore forests with more than 60 per cent canopy are only 4.4 per cent of this. The consequences are obvious. There has been a rise in the temperature; glaciers, the permanent storehouses of water, are receding at an alarming rate - Pindari glacier in the Kumaon Himalayas is receding at the rate of 25 metres a year, and has retreated 27 kms since the Pleistocene glacial period; water springs are drying up. A spot survey in Gaula river catchment area in Nainital districts revealed that about 45-50 per cent and locally 50-75 per cent of the springs have gone dry and become seasonal.”

The siltation of reservoirs is another serious problem. It is 21.3 percent above the average from the assumed, but in certain cases like Kalagarh dam over the Ramganga it is 400 per cent above the assumed rate. The life of the Bhakra dam was predicted to be 217 years for dead storage and 530 years for the live storage level at an annual silt formation level of 27,520 acre feet. The latest figures revealed that it touches 60,266 acre feet.

To cope with this situation and regular floods, the Government of India appointed a working group to formulate an action plan for flood control in the Indo-Gangetic basin, after the severe floods of August 1978.” On the basis of the recommendations of this group watershed management projects financed by the World Bank and the European Economic Community were started in the UP hills. Among them were the World Bank social forestry project in Jammu & Kashmir, and the Umbrella Project in Himachal Pradesh. The main component in these projects was forestry, and tree plantation was their main activity.

The Forest Department with its hundred year’s background of commercial forestry and the Planning Commission’s targets to grow more industrial raw material through these watershed projects have accelerated the impoverishment of a region with fertile soil,

humus and water resources. The slogan of the World Bank Social Forestry Project in Jammu & Kashmir was 'Plant Trees and Grow Money'. They encouraged the plantation of poplars in the firewood-hungry Kashmir valley, so that the poor village women were able to get only dried poplar leaves to keep their hearths and homes warm during the icy winters. The timber would go to the apple packing-case factory or a multinational match company's factory. In the upper hills of Chamba district, at Mangala, the author found 85 per cent chir pine saplings and only 15 per cent saplings of fodder species. This area is inhabited by cattle breeders. In the lower hill of the same district at Hatali, where farmers need fodder and fuel tree species, the number of commercial species saplings was 49,100 against 6,391 local species for fuel and fodder. Of the commercial species more than 20,000 plants were of eucalyptus and poplar which are water-suckers. In the Garhwal region chir pine is being encouraged everywhere. At Sursinghdar in Tehri Garhwal, the villagers asked for oaks to be planted, As testimony that oaks do indeed thrive in that area, a 200 year old oak tree of a 'sacred grove' stands over a temple along with oak bushes in the pine forests, But the project authorities planted 7,200 pines and other commercial species, and only 1,440 oaks. Their love for exotic pines is so great that they have also planted pines in the area where once oaks grew. An old villager sarcastically remarked, "Because they get money from the white men, so they planted these trees in order to end their homesickness when they come to inspect the project. They dislike the oak because it is black and has stunted growth like us, the labouring villagers." Rather than meeting and silting with the people, the officers on these projects arrive in their jeeps and live in well-furnished bungalows provided by the World Bank and other funding agencies. These projects which are regarded as pilot watershed development projects for the upland areas have become objects of bitter criticism from the local people. They have made people greedy and have become a source of easy money for middle-men. Labourers are imported from far-off areas like Nepal and Bihar.

The plantation programmes of these projects are resisted by the people to the extent that in Chamba, 250 villagers uprooted 7,000 eucalyptus saplings from Sehunta nursery. Their leaders have gladly courted arrest. Their plea is simple, "We need broad-leaved food and fodder species to feed ourselves and our cows. We will not allow you to plant foolish trees like eucalyptus and chir pine to feed the machines. These trees spoil our soil and dry our water sources". In Nandasain, Chamoli, the Forest Department planted chir pine in the midst of a 10 sq. kms community oak forest. Never in the history of that area had pine trees existed. What the Britishers did in the last century is being repeated today in the garb of watershed development. The villagers of Nandasain know their water sources will dry up with the expansion of chir pine cultivation in this area.

Similarly in the southern state of Kerala in the hill district of Wayanadu from where the rivers emerge, the villagers were compelled to uproot 7.5 million Australian acacia saplings, which were proposed to be planted in the grassland. There was enough scientific evidence against this exotic plant.

On the other hand there is scientific evidence in favour of planting oak forests. Studies conducted by the Central Himalayan Environmental Association, Nainital, reveal that "The oak forest is multi-stratal, in contrast to the simpler pine forest. Such a multistratal forest dampens the thrust of raindrops as a consequence of which soil and nutrient losses are minimised." (Singh and Singh, 1983).

### People's participation

Most countries in south-east Asia have inherited a colonial system of administration and have adopted a development strategy imported from the western countries, whose economy was built on the basis of exploitation of nature and the colonies. This has alienated the policy-makers and the administrators from the common people who are struggling for survival. Wanton exploitation of nature has created serious environmental problems like air pollution, water pollution and soil erosion. Development needs to be redefined. Its objective should be to create favourable conditions for a lifestyle in which everybody enjoys happiness, peace and fulfilment. This is possible if the basic needs of all living beings are fulfilled from their surroundings. These basic needs are: oxygen, water, food, shelter and clothing.

We should reconsider land use in the uplands in this context. Agriculture cannot be extended. At present, in spite of deforestation, there are 17.6 people per hectare of cultivated land in the hills of U.P.” Population density in the most habitable elevations (1000-2000 m) generally ranges between 100-120 per sq. km. Cultivable land per household varies from 0.45 ha to 1.05 ha., 80-90 per cent cultivation is rain-fed.

Tree farming is the only alternative. So far tree farming has been advocated only for cultivated land, which can neither give full employment to the growing population, nor stop the degradation of the environment. Similarly, plantation of commercial timber and industrial raw material producing tree species in reserved forests and other community lands serves no purpose. Chir pine plantations in vast areas of (he thickly populated Central Himalayan region are examples of this. The employment generated is in resin tapping and logging. A single labourer who is engaged in resin tapping needs at least 10,000 trees to support his family. Employment in logging is also limited. The hundred years land use for growing commercial species even in sparsely populated areas has not made people prosperous and has not halted the process of land degradation. As we have seen earlier chir pines have impoverished both the people and the soil. According to Richard St. Barbe Baker, the renowned forester and Man of the Trees, “Three generations of intensive conifer monoculture will produce acid pan in most soils.” The deleterious effects of substituting spruce monoculture for native broad-leaf forests were reported by Prof. Pelisek in his paper “Changes in the Forest Stands and Soils in Europe’.

Mass uprooting of most of (he young pine trees in the Himalaya by wind may be attributed to the formation of acid pan in its root system and young trees' competition for growth.

Maximum land use should be to grow suitable tree and plant species, which, while holding the soil and conserving water, may give yield from fruits, flowers, leaves and twigs. Agriculture in the valleys over flat lands cannot be written off, nor can cattle rearing be ignored. Highlanders all over the world are primarily cattle rearers, but both these activities require forests. In Switzerland there is a saying that forests are the bed covers of the farms. Hill farming can only be sustained with forest land and according to one study, “Against the requirements of 10 ha. of forest land to support and sustain one ha of cultivated land, the actual ratio of forest land to agricultural land is only 1.33 : 1.0 and well stocked forests to agricultural land is only 0.84 : 1.0 (Pandey and Singh, 1984).

The ninth World Forestry Congress in Mexico has recommended:

It has been acknowledged that forestry can no longer be considered in isolation, but within the context of multiple use and of its association with agriculture and cattle activities.

This is realistic in the context of the hills as “the fragile and eroded hill soils are extremely poor in available nutrients and in the organic matter content which is so crucial for retaining soil moisture. Animal dung must be added to the soil.... The forested areas surrounding the cultivated fields are actually natural storehouses of agricultural inputs, and livestock is used to collect, convert and concentrate these inputs into a form readily usable by the farmer.”

Thus the tree cover around the villages should be such as to provide food to human beings and fodder to the cattle. Priority should be given to trees yielding edible seeds, nuts, oilseeds, honey and seasonal fruits. In higher altitudes, above 1500 metres, soft walnut, sweet chestnut, hazelnut and wild apricot can be successfully cultivated. In lower altitudes mango, amla, bael, and jamun will thrive. An average hill family will need 300 nuts/fruits, 1500 fodder and 200 fibre trees (mulberry, ringal, and bamboo) to be self-sufficient.

Fruits and nuts may be partly used as food and may be marketed. Medicinal herbs can be added to this. Availability of fodder will help in stopping uncontrolled open grazing and fibres will provide raw material for village industries. There are certain species like wild apricot which can grow even in uncongenial conditions. A single wild apricot tree in seven years will provide oilseeds to produce 5 kgs oil. Oil pressing will generate extra employment and leave oil cakes to fertilise the soil.

There has been too much stress on the planting of tree species to supply raw material to big industries. This, in the hills, has on the one hand destroyed natural forests, minimizing their capacity to conserve soil and water, and on the other hand impoverished the hill people by creating a fodder famine. Top priority should be given to industrial raw material for village industries, which may provide employment to the people living around the forests. The recommendations of the ninth World Forestry Congress in this respect is clear: “In considering forest based industries attention should be given not only to wood products but also to non-wood products, the earning potential of which can be considerable, even in small scale operations, provided that their marketing is organised”.

If these basic policy changes are made, people will come forward with great enthusiasm to participate in the conservation of the uplands. People’s participation has till now been interpreted in a limited sense. As a matter of fact, planning is done by somebody else sitting in air-conditioned offices. But “participation is a socio-political concept related to rural development. It is concerned with people having the freedom and capability to take development initiatives; to decide what is to be done and how, and carrying out decisions.” The main contradictions of hill development are:

1. There is a lack of co-ordination between the aspirations of the local people and national interests.
2. The standard of living of the planners and those who implement the plans is totally different from that of those for whom the plans are made.”

The national interest in the present context should be to get rid of floods and get a regular and stable supply of water rather than timber and minerals.

Rethinking regarding the administrative system of the hills is required. The topography and peculiar physical conditions require decision-making powers at the grassroots. The present centralised system has failed miserably, because its head is in the clouds and its hands, that can actually implement the plans at the grassroots level, are tied. The relationship between the head and the hands is that of officers and subordinates. The heart is missing. Recently I was invited to talk to the field workers of a watershed project, who had specially come from the villages for this meeting. As soon as I entered the hall, I saw a few chairs for the officers and myself, and a durree (mat) on the floor for the subordinates, who were dressed in uniform. This scene pained me and I shared the mat with them. These workers go to the villages with the idea that the chairs are meant for them while the villagers should sit on the floor. Most of them live in the roadside market places and so there is a distance between them and the people. The first principle of field work is the identification of the worker with the masses. Mahatma Gandhi, the most successful social worker of the 20th century, in his daily prayers said, "Oh God, give me strength and eagerness to be one with the masses of India."

Instead of establishing a top heavy expensive management system which requires highly paid officials, equipment and buildings, the village level organisation (panchayats) should be strengthened. These organisations will inspire the people, plan according to their needs and implement the projects. The role of experts should be advisory. Field workers, preferably women, should be selected by the panchayat. One of the most successful plantations I have seen during recent years was nurtured by a woman worker in my village in India. To my knowledge, there are not more than half a dozen women forest officers. Most of these have been assigned office work rather than field work. In the hills women are more concerned with the forests, because they have to collect firewood and fodder. They have successfully raised a broad-leaved species plantation in the midst of a pine forest, when the opportunity to do so was given to them.

I am clear about the role of voluntary workers and organisations. Unfortunately most of these have become NGOs. There is a basic difference between NGOs and a voluntary worker or organisation. NGOs, whose growth has mushroomed in southeast Asia and other poor countries, are a recent phenomenon. They supplement the activities of governments; they receive support from governments or outside funding agencies and their style of working is more akin to those who feed them. People look to them for funds. More than funds we need ideas and self-confidence for the success of any upland conservation programme. The NGOs have become a part of the establishment and thus help in maintaining the status quo.

It is my firm belief that for the success of a noble mission we should form small local groups of humanitarian scientists who will use their knowledge to end the sufferings of all living beings, social activists impatient to bring change through non-violent action, compassionate literary men, artists and journalists, who touch the hearts of the masses. The scientists represent knowledge (gyan), the activist's action (karma) and the literary men devotion (bhakti). The solution to all problems lies in the combined efforts of these three forces with voluntary workers and organisations. Those who are independent and deeply rooted in their cultures can bring them together.



The traditions are there, but they are fading away due to the invasion of a materialistic culture. In India we had the tradition of maintaining sacred groves near places of worship. Nobody would touch these trees which were maintained as seed bearers. The species selected for the sacred groves were the ficus or oaks which attracted birds and had the capacity to release more oxygen, absorb more carbon dioxide, and conserve more water. I found sacred groves in Sri Lanka also, where “the first mass tree planting on record dates back to the reign of Mutavisa (310-250 EC). The oldest historical tree in the world today was planted at Anuradhapura by Rivanampiya Tissa (250-210 BC) and has been very carefully nurtured through a royal endowment throughout the past 2230 years and more.””

I end with an instance from our century. Richard St. Barbe Baker was appointed forester in Kenya, where he saw trees being felled but not planted. When he asked the tribals to plant trees, they said this was God’s job. So he raised a nursery in his bungalow. When the planting season came, he organised a dance for the trees as the tribals had a tradition of holding festivals of dancing. There was one condition. Each dancer was to plant a tree! In this way was born the organisation “Men of the Trees’ in 1922. Today this organisation extends over 105 countries of the world. We are celebrating the centenary of the founder of “Men of the Trees’ this year (1989). This saint scientist was a source of inspiration to millions. He took up the urgent task of ensuring the survival of all life on our dying planet - the work of healing the earth. He with his life-long work brought about a new consciousness of the forests as oxygen banks and as mothers of rivers. He advocated the creation of a special fund by taxing lowland areas to conserve and regenerate the upland areas, as these supplied life-giving water to the lowlands. Let his message through his Prayer for the Trees<sup>11</sup> give us strength, courage and determination to revive the greenery of the upland areas.

We thank thee O God!  
For thy trees.  
Thou comest very near to us  
Through thy trees.  
From them we have  
Beauty, wisdom, love.  
The air we breathe,  
The water we drink,  
The food we eat,  
And the strength.  
Help us, O God!  
To give our best to life  
And leave the world a little more beautiful  
And worthy for having lived in it.  
Prosper thou our planting,

And establish thy Kingdom of Love  
And understanding on Earth, Amen.  
—*Richard St. Barbe Baker*

## PEOPLES PROGRAMME FOR CHANGE

### The Bitter Fruits of Development

We live in a world full of contradictions. There are democracies, but strong armies to protect these. There is plenty, but surrounded by poverty. We are prosperous, but haunted by perpetual dissatisfaction. This has not happened all of a sudden, but is the outcome of the progress of our materialistic civilisation, a civilisation which has identified development with economic growth. This has encouraged consumerism. A society which consumes more and, of course, creates more waste is regarded as a civilised society. This civilisation has its roots in the Industrial Revolution of Europe.

The Industrial Revolution has brought about two basic changes in human thinking:

Firstly, that nature is a commodity. Everything in nature, which has economic value, can be marketed. Thus, the gifts of nature, which all beings freely enjoyed and which enabled them to lead a life of self-sufficiency from their surroundings, became marketable and came either under the control of individuals or institutions who had authority, wealth or arms.

Second, that society consists only of human beings. This concept gave human beings mastery over nature and was misused to exploit it. Exploitation of nature went to the extent of butchery.

The concept of economic growth was glorified by American President Harry Truman, when after the conclusion of World War II in his inauguration speech before the U.S. Congress on 20th January 1949; he defined the larger part of the world as “underdeveloped areas.” A new and convenient world view was thus announced: all the peoples of the earth were to move along the same track and aspire to only one goal - development. And the road to “development” was clearly defined: “Greater production is the key to prosperity and peace.”

The pace of development after 1950 was so fast that “global economic production has nearly quintupled (five times). World food output during this period also grew at a record pace. Soaring demand fuelled by population growth and rising affluence provided the incentive and modern technology the means, to multiply the world’s grain harvest 2.6 times since mid-century.”

The other indicators of economic growth are:

- Global output of goods and services totalled roughly \$ 3 trillion in 1980.
- World export of all goods - agricultural commodities, industrial products, and minerals - expanded 9% a year during the eighties reaching more than \$ 3 trillion in 1990.

But the price we have had to pay for progress has been a heavy one, and the realisation of it has come too late. After four decades of this model of progress it was found that “since mid-century the world has lost nearly one fifth of the top soil from its crop land, a fifth of its tropical rainforests and tens and thousands of plant and animal species.”<sup>5</sup> •

The loss of natural capital - soil, water and forests was greater in the poor countries. In India the loss of top soil due to soil erosion is 6000 million tons a year and the cost of nutrients (fertilisers) washed away with it is estimated at Rs. 7000 million (US \$ 250 million)<sup>4</sup>. The irony of fate is that the programmes launched to boost food production, like extension of canal irrigation, have resulted in the destruction of soil fertility due to salinity. India has the largest percentage of irrigated area suffering from these. Out of 50 million, 36 per cent is suffering from salinity and water logging etc. Similarly, 1.5 million hectares of forests were lost to development projects every year after Independence.

But the disastrous effects of development are not visible in nature alone. It has created a war psychosis all over the world. We have already seen the demonstration of arms in the Gulf War. Production of arms is one of the major industries of our times and defence takes the lion's share of national budgets, even in the poorest countries of the world. The hidden cause of the war is to establish control over the remaining natural resources and markets.

The other gift of development is pollution. We have already seen the pace of depletion of land and the forests, but air pollution which was unknown to people when they were less developed has become the major environmental problem of the last decade of this century. The amount of carbon-dioxide, the principal greenhouse gas has reached health-threatening levels in hundreds of cities and crop damaging levels in scores of countries.\* The Swedish environmental expert Bjorn Gillberg claims in his latest book that 60,000 Swedes die prematurely each year due to environmental pollution and their life expectancy is shortened 8 on an average by 14 years. In a similar study US statistician Prof. Jay Gould has concluded that there were 30,000 excess deaths in USA in 1986 alone for which radioactive cloud was the only plausible explanation.^

Rivers are flowing with industrial effluents and toxic material. It is not just the Rhine, which carried chemical effluents causing grave anxiety to a number of European cities on its banks, but the holy Ganga in India, whose waters were regarded as the purest and had magical curative qualities, which is today most polluted in industrial cities like Kanpur, Barauni and Hoogly. At places of pilgrimage like Prayag (Allahabad) and Varanasi, where millions take the holy dip, the Ganga has become a carrier of deadly water-borne diseases like cholera, viral hepatitis, amoebic dysentery, and polio.

The third gift of development is poverty and hunger. The best lands in poor countries are used for growing crops which bring foreign exchange. This is necessary to support the affluence of the wealthy. The famine in Ethiopia is a tragic demonstration of how the common people suffer due to the auctioning of soil-fertility. We boast of prosperity but even in the USA, the land of prosperity, there are already an estimated 10 million homeless Americans. Over 20% of its population goes to bed hungry every night.<sup>7</sup> The stories of widespread food scarcity and the scarcity of other essential commodities in USSR are well-known.

### Failure of the system and bondages of our times

Governments of all types have failed to solve these three basic problems - threat of war, pollution and hunger - of humankind. They have bureaucrats and technocrats to solve the problems. But bureaucracy can not solve the problems. On the contrary it gives birth to a number of problems. As the bureaucratic system expands, it loses mobility. It becomes static, and any system which is not dynamic cares only for its own security. Similarly we have seen that technology has miserably failed to solve the problems created by technology itself, specially the problems of pollution.

The Moscow Conference in January 1990 was attended by about 1000 scientists and political and religious leaders who after discussing the growing threat to Earth's environment, issued a declaration calling for a new planetary perspective to include a spiritual and ethical basis for human activities on earth." Indirectly they admitted the failure of technology to solve the problems created by it.

The existing system stands on four pillars: authority, wealth, arms and ideology. Authority has given birth to stateism. Wealth expresses itself in the form of capitalism. Arms have given birth to militarism and ideology has produced a class of elite-intellectuals, and thus elitism. Dr. S. Radhakrishnan said:

"We live in a world of intellectual prophets. That is a world of selfish people, in which the dangerous system born out of industrialisation and capitalism rules, in which the outward successes and technology are lauded, which is flooded with body comforts and sensual luxury goods; in which even the public life is the eternal empire of uncontrolled lust; which is based upon the respect of sensuality and neglect of religion and soul."<sup>9</sup>

All these four pillars, though they stand apart from each other, support the whole structure.

### Quest for Liberation

When French philosopher Rousseau made his observation that 'Man is born free, but everywhere he is in chains' and inspired the French Revolution, people knew only one bondage - the bondage of despotism. In modern society, as we have seen, the bondages are many. But all these have concealed themselves under the garb of development. Stateism, capitalism, militarism and elitism, all promise to produce more fruits of development. Our modern society has therefore, to get rid of this illusion of progress, a development that is based on consumerism and the promise of affluence. We have to question whether having more material things is true development. We have achieved an illusion of material prosperity, but at the cost of peace and happiness. That is why in affluent societies people take pills for peace and drugs for happiness. This temporary peace and happiness brings more miseries.

The quest of social revolutionaries has been to make the life of the individual and society better. Gautam Buddha, a prince born in India, was the first social revolutionary, who pondered deeply on this problem. He wanted to alleviate human miseries. His first discovery was that miseries cannot be alleviated from the palace - the illusion under which the present day rulers keep the masses. So he left the palace and became a common man. He experienced all the agonies including hunger, and reached the final

stage of realisation. Buddha realised that the root cause of misery was Trishna (desire). He defined development as a stage in the life of individuals and society in which they enjoy permanent peace, happiness and fulfilment.

Indian culture never glorified affluence, but always advocated the joys of simple living, because fulfilment (santosh) can never be achieved through wealth. Weaver saint Kabir Dass sang: Go dhan, Gaj dhan, Baji dhan aur Ratan dhan Khan. Jo Aaye Santosh dhan, Sab dhan dhuri Saman. (Wealth in the shape of cows, elephants, horses and precious stones - there were no dollars in those days! - is as dust compared to the wealth of fulfilment). In our times Gandhi revived the message of Indian culture. By using India as an example, he found solutions to global problems. Gandhi challenged the definition of progress of the materialistic western civilisation. He said, "Human instincts are wavering. He runs after futile things. As you give more to this body, the body demands more. The demands for sensual desire increases after fulfilling these. Our ancestors had put a limit on our desires - they advised to give up hankering after desires. They thought it was a useless affair to establish big cities. The people will not be happy in these. There will be gangs of dacoits and the streets of prostitutes. The poor will be plundered by the rich. So, they were satisfied in the small villages. They saw that ethical power was stronger than the rulers' swords. So they regarded rulers inferior to the wise seers and sages."

Gandhi expressed these views in 1909. In the four decades that followed he saw the booming of materialism. Humankind tasted its bitter fruit in the form of World War II. When Independence was to come, Gandhi had discussions with his political heir, Jawaharlal Nehru, about development. These have been very well documented by his secretary Pyarey Lal in Towards New Horizons. Gandhi put the solutions to complicated problems precisely in simple words. It was during this period that he said, "The earth provides enough to satisfy every man's needs but not for anybody's greed."

This brings us to the question of what should be our attitude towards Nature (prakriti). When economics becomes the religion, the behaviour of economic man becomes that of a butcher towards nature. He takes everything at once in a vain attempt to satisfy his never ending greed. The situation thus created is vikriti (perversion) - a perverted society (vikrit samaj). After all we have to sustain ourselves and achieve the goal of permanent peace, happiness and fulfilment for individual and society. We have to take our sustenance from nature. And the way to it is the sublimation (susanskar) of nature with the help of science and technology. Sublimation of nature, while guaranteeing peace, happiness and fulfilment, will bring into existence a cultured (Sanskrit samaj) society. This is the evolution from nature to culture (prakriti to sanskriti), which has been the long cherished dream of humankind.

### Change needed in all spheres

During the last few centuries the main thrust has been upon political and economic emancipation. These two have undermined all other forces which enabled human beings to progress from nature to culture. We need changes today in the field of religion, science and technology, politics and economy. The experiments of Buddha and Gandhi in these

fields are relevant today. With the advancement of science and technology the task has become easier today. We experienced this during the course of the 'Chipko' movement.

Unfortunately, religion today has been reduced to the level of certain rituals and this great unifying force has become a weapon in the hands of sectarian vested interests who use it to create enmity between man and man. Acharya Vinoba Bhave, the walking saint of India and the spiritual heir of Mahatma Gandhi, showed the way to free religion from the bondage of sectarianism. He said, "Vedanta will be the religion of the era of science". When science has made the world so small, all the religions should come together, because the basic teachings or the code of conduct which religions advocated is similar. Vedanta believes in the oneness of all life, i.e. life in all creation; life not only in human beings, but in birds and beasts, trees and vegetation, rivers and mountains. This determines the human behaviour with other forms of life i.e. nature. This exposes the stupidity of modern law, which prescribes capital punishment for the murder of human beings but no punishment for killing a river. On the other hand it eulogises activities such as a dam-building in the name of development. We should love and respect all forms of life. We should have a worshipful attitude towards all life. The Chipko movement had its basis in Indian culture as well as in the scientific truth of life in trees, as proved by Dr J.C. Bose. This synthesis of science and culture in a holistic spirit can be extended to other spheres, especially in activities where the use of natural resources is involved. I feel the word exploitation is mischievous as far as human behaviour towards nature is concerned.

This is a practical approach especially for a society where simplicity rather than affluence is cherished. In the West the word austerity is not liked much, but in Hindi we have two very appropriate words: sadgi (simplicity) and sanyam (restraint). This does not mean being a miser, but leading a simple life, i.e. using fewer things, and only those which are essential and keeping control over one's sensual desires (restraint). I want to clarify it with a practical example. Consumption of red meat is very high in affluent societies (96 kg per annum in East Germany, 76 kg in US and 1 kg in India). 12 But one fifth of that quantity of walnuts contain the same amount of calories. Why not substitute red meat with nuts?

Alan Durning in *Asking How Much is Enough* gives the following extracts from the Teaching of World Religions and Major Cultures on consumption.

**American Indian:** "Miserable as we seem in their eyes we consider ourselves... much happier than those, in this that we are very content with the little that we have." (Micmac Chief)

**Buddhist:** "Whoever in this world overcomes his selfish cravings, his sorrows fall away from him, like drops of water from a lotus flower." (Dhammapada)

**Christian:** "It is easier for a camel to go through the eye of a needle than for a rich man to enter into the kingdom of God." (Matt. 19:23-24)

**Confucian:** "Excess and deficiency are equally at fault." (Confucius, xi.15)

**Ancient Greek:** "Nothing in excess." (Inscribed at Oracle of Delphi)

**Hindu:** "That person who lives completely free from desires, without longings attains peace." (Bhagwad Gita)

**Islamic:** “Poverty is my pride.” (Muhammad) 11.71

**Jewish:** “Give me neither poverty nor riches.” (Proverbs 30:8)

**Taoist:** “He who knows he has enough is rich.” (Tao Te Ching)”

The message of religions has become most relevant today, when in spite of exhausting the accumulated treasures of nature with the help of exploitative technology, humankind is confronted with more problems and no solutions. Here the role and objective of science and technology will be vital. Vinoba Bhave has again in simple words explained it.

Science + Politics = Atom bomb, destruction

Science + self-knowledge = Sarvodaya, good for all (or spirituality)

It does not necessarily imply that all science is directed towards destruction, but it is true as Prof. Galtung says that half a million scientists all over the world are busy in devising the most effective killing machines. Barring a microscopic minority all, under the illusion of development and progress, are busy devising technologies which facilitate quick exploitation of earth's renewable and non-renewable resources. The much publicised ‘Green Revolution’ is a glaring example of this. For some time production increased, but it is now being realised that agriculture has become solely dependent on outside inputs, like chemical fertilisers and pesticides. Chemical fertilisers have made the farms addicts. A stage will come when the raw materials for these - petroleum products - will be exhausted and the farmers will be left in the lurch. This is due to the misuse of science by politics which is concerned with short term gains presented as modern miracles.

For a permanent society, we need a science of permanence. This science should be guided by self-knowledge (Atmagyan -spirituality). Jacob von Uexkull, the founder of The Right Livelihood Awards, terms it ‘a science based on the perennial wisdom of mankind, a science which accepts our role as caretakers of the planet. We need a search for knowledge leading to self-realisation and the realisation of values.’

Chipko is a shining example of the combination of science and wisdom. The hill villagers had the wisdom to see that felling of trees causes soil-erosion and drying up of water resources. This wisdom is neither contained in big volumes nor in the minds of great professors, but in the lives of the common people. Their wisdom is the collective experience which they have acquired over several generations. They have expressed this in the popular song of the Chipko movement:

What do the forests bear?

Soil, water and pure air.

Soil, water and pure air,

are the basis of life.

The religious teachings of the scriptures which maintain that trees are living beings performing so many services for humankind was supported by scientific facts. This was accepted even by those who branded the movement as anti-science and anti-development.

**Alternatives**

The function of technology should be to find alternatives which would stop any further butchery of nature and help in the transformation of an exploitative system into one where nature is healed and enriched.

One practical step will be the greater reliance on renewable resources. Such a society will be sustainable and permanent. Strangely enough, tribals and indigenous people all over the world who have survived the onslaughts of the prevailing materialistic civilisation live a simple life and use whatever renewable resources they get from the grasslands, forests, crop lands and oceans. Their dependence on agriculture is minimum. They use metals and minerals for limited purposes. They even eat on leaf plates. I have seen people in Arunachal Pradesh in the Eastern Himalaya, who use bamboos for cooking rice and storing water. They collect their food from the surrounding forests. When a group of philosopher activists asked Ivan Illich for a solution to the crisis of civilisation, he calmly replied, "Perhaps the Eskimos can show the way," meaning thereby that a lifestyle based upon simplicity and dependence upon resources which are around is the answer.

But the population explosion and the depletion of already over-exploited renewable resources has made it impossible to adopt the life-style of the Arunachal people or of Eskimos. Availability of oxygen, pure and living water, healthy and nutritious food, comfortable shelter, should be assured to all living beings in an ideal society. This is possible if we switch over from agriculture to tree farming. Gandhi foresaw this as early as 1926 and Richard St. Barbe Baker, *Man of the Trees*; the saint-scientist advocated it on scientific grounds. Besides the demon of air-pollution, modern agriculture is continuously reducing the fertility of the soil as it creates accelerated soil-erosion, salinity and water-logging. Tree farming can produce five to ten times more food from the same area of land as compared to cereals. The challenge before the scientists is to find tree species for different ecological regions which can produce edible seeds to replace cereals; nuts to give more nutrition and replace red meat, oilseeds for fat and honey to replace white sugars which have made human bodies into mobile sugar factories. Some fruits like gooseberry (amla) are rich in vitamin C and other vitamins. Similarly tree leaves can provide feed to the animals, fibre for clothing and other purposes, and, of course, timber for shelter when mature.

Tree farming fulfils all the conditions of self sufficiency and the basic requirements of oxygen, water, food, shelter and clothing from the immediate neighbourhood. It will check further degradation of land; it will improve the soil and economise the use of water, besides reducing the fluctuation in the flow of rivers and replenishing the underground water table. Per capita availability of water is decreasing at an alarming rate all over the world and specially in the tropical countries; whereas the demand is increasing for household needs due to urbanisation, and for agriculture and industry. Sharing of river water is an issue of conflict in India. The only solution which the prevailing system offers is the construction of large dams, which is a temporary solution to a permanent problem and that too at the cost of the destruction of renewable resources of croplands and forests. As such, large dams will stand as monuments to twentieth century stupidity. Dense tree cover, especially in the hill catchments of the rivers, are permanent dams.



The requirement of energy is negligible in tree farming. There will be less need for cooking. People living upon tree products, nuts and fruits as in Hunza (Gilgit) are healthier and long-lived.

Gandhiji, while enumerating the advantages of tree farming, wrote to a compatriot, Kaka Kalelkar: “It will increase stability. Our relations with the rest of the universe will be purer. Less labour will be required in horticulture as compared to agriculture and human beings will get some peace from their unending labour. As the spiritual impact of vegetarianism is greater than non-vegetarianism, similarly the impact of a fruit diet is greater than that of cereal diet. Then, these trees will regulate the rains. Tree farming is less dependent on rains than cereal cultivation. In this way the economic, political and spiritual benefits of fruit diet are greater.”

Dependence on the resources of far off areas and a centralised system of production is a new form of slavery, which has become part of modern man's life. Besides food, shelter and clothing, other necessities of life should be produced through a decentralised system in the neighbourhood. This will end the exploitation of nature and human beings. The centralised production system creates an army of unproductive people - managers, bankers, brokers, advertisers and transporters. These take the major share of society's earnings and impoverish the earth. Take advertising alone. The global expenditure on it rose from US \$ 39 billion in 1950 to \$ 237 billions in 1989. It is now US \$ 46 per capita.<sup>71</sup> In developing countries the increase has been astonishing. In India it was Rs.1500 millions (US \$ 555 millions) in 1990-91.<sup>17</sup> The idea behind Swadeshi, which was an integral part of India's independence movement and Gandhiji's constructive programme for social change, was to bring the producer and the consumer face to face and make them members of the same community and eliminate the middleman. The production system also decides the energy policy. The centralised system needs centralised and high energy, and to run this, atomic and thermal energy and hydro-energy from big dams become inevitable.

A political system without participatory democracy is a farce. It makes the system dependent on an army and the result is military coups.

### Agents of Change

There has been much dependence on political leaders and panics for change. But in most cases they are captives of the system. There may be exceptions who may initiate some radical changes, but the sanction for such changes should come from the people, because in a democracy, ‘Will, not force, is the basis of the state’. The will of the people will build public opinion.

These will be in the form of small local initiatives, small voluntary groups (not NGO's which implies a body which is supplementary to the government and a part of the establishment) of humanitarian scientists, social activists and compassionate literary men, artists and journalists. The humanitarian scientists are those who direct their research to alleviate the miseries of humankind, other beings and the earth. They will not allow their knowledge to be exploited by vested interests and will be guided by their conscience instead of material gain. From conditions around them they will find ways and means to make living in harmony with Nature possible.

The social activists, who are impatient to bring about change, should take scientific support for their non-violent actions. Only non-violent actions can empower the people. These actions may be positive (encouraging the decentralised political and economic system) and negative (boycotting the products of centralisation, non-cooperation with exploitation and atrocities).

Compassionate literary men, artists and journalists take direct the message to the hearts of the people. Contrary to becoming the voice of a vocal minority which controls the establishment, they become the voice of the silent majority. These three come together to form a small local group, take up the local problems and through their constant efforts they educate the masses, free them from fear and greed, the two weapons of the establishment, and equip them with fearlessness and selflessness - the two weapons of non-violent struggles. Such groups will try to build up people's opinion in favour of a new order; launch people's movements against destructive development; present alternatives and take independent initiatives towards the solution of local problems. This ultimately makes them a part of such initiatives all over the world, which act locally but think globally.

They, of course, are in a minority, but a highly creative minority, swimmers against the tide. They are ridiculed, neglected, isolated and insulted, but ultimately heard. The reason is obvious. They have simple, practical and scientific solutions to the problems. Their continued efforts will activate society and the majority will adopt their way. This has been the process of change all through the course of history. Buddha, Jesus and Gandhi, were all in a minority during their lifetimes, but they were men with foresight and they made a practical contribution towards change. Our generation is fortunate in the sense that with the advancement of science and technology, the world has become small, a global village, and a single creative initiative towards change attracts the global attention and there is no danger of its disappearing into oblivion. The small beginnings of the Chipko movement in a remote village of Himalaya attracted global attention and support, whereas the sacrifice of 363 Bishnoi women to save the Khejri (acacia, *Prosopis Cineraria*) trees in a Rajasthan village in 1730 remained a local incident. Amrita Devi, the leader of the movement, before offering her head to the king's executioner, chanted what has become the basic principle of all ecological movements:

Seir santae runkh rahch, to bhee sasto jan. (It is still a small price to pay if at the cost of my head the tree is saved.) Today everybody says, 'Trees for Survival'.

I would like to conclude by saying that no problem can be solved in isolation. They are interconnected, and any programme for change should be a programme for total change. As Loknayak Jaiprakash Narain, the fiery socialist turned Gandhian, called it: Total Revolution (*Sampoorna Kranti*). The West has been mainly concerned with war and pollution and so the focus of the people's movement has been on peace and environment. They have been unmindful of the third problem, which a vast majority of people in the poor countries are facing, and that is hunger. We should work out solutions to the triple problems of war, pollution and hunger in the shape of a 'Blueprint' for the survival of our planet. This will act as a guide to the groups working for change all over the world. The 'Blueprint' should be based upon the scientific facts of the West, but have the mystic vision of the East. It is well known that the solution to war is peace, to

pollution a clean environment, and to hunger, food. But there is a need to create an awareness of the alternatives available to all sections of society.

Authority must be replaced with service, wealth with simplicity and restraint, arms with peace and ideology with good behaviour.

Voices against the first three have been raised through the course of history; but Gandhi was the first revolutionary who said, "I have no 'ism, no ideology; my life is my message." A simple statement, easy to understand, it makes all the big volumes containing economic and political ideologies to support the system appear ridiculous. 'Good behaviour' with fellow men and nature is the key to change. The materialistic consumer society of the West is today the biggest hurdle in the path of change. We can start with good behaviour in our personal life, and broaden the circle of friendliness from human beings to all beings, and finally to nature.

### **The Crisis of Civilisation and the Message of Culture in the Context of Environment**

The subject I have chosen for this paper was suggested to me by the life and work of Dr Rajendra Prasad. When he became the first Minister for Agriculture of free India, we were passing through a state of famine. Famine had played havoc in Bengal just at that time. The masses were reeling under the problems created by the World War II. The import of rice from Burma had been stopped. He had before him the Herculean task of saving the millions of his countrymen from the clutches of hunger. There was no alternative other than to import food grains from foreign countries. The import had materialised but it was not sufficient. He had known from his foresight that an agricultural country like India should herself meet her food requirements. He appealed to the people, "whatever one can do to produce more food, should be done; food should be used as little as possible and after saving should be given as much to others as possible". Millions of people reduced their intake of food at his behest. He felt that food could be saved by occasional observation of fasts.

The industrial revolution in Europe gave birth to a new kind of civilisation. This brought about a basic change in the outlook of man towards life and nature. The steam engine put unprecedented power in the hands of man. With the use of this power, his relationship with nature underwent a sudden change. Nature for him now remained only a resource - a commodity - and he became the sole master of this resource. In addition to this he began to consider himself as superior to other beings because no other animal possessed the power and means to control nature. He limited the definition of society to the society of human beings. These two conceptions became the basis of development of human civilisation from then on.

In the first half of this century, the British author, C.E.M. Joad, singing the glories of "Our Civilisation" eulogised those ease- and comfort-giving machines and gadgets which were not available to our forefathers. This implied that a society which provides many comforts and facilities is fit to be called a civilised society. Among these the means of enjoyment, entertainment, and recreation hold an important place. All these comforts and

facilities have polarised in cities. It is for (his reason that urban development is considered to be a yardstick of development. This century has seen a rapid increase in urban population. Many principal cities for fear of unlimited population growth have passed legislation to check the expansion of cities. Here, in India, we are giving birth to more and more new cities in the form of “growth centres” and suburbs flourishing in the outskirts of cities themselves. The main objective of development has been the extension of city facilities Co the villages.

We have considered affluence to be the hallmark of development. A society is considered developed when it has more and more material goods.

From where do these come? Ultimately the Earth is the storehouse of them all - whether they be the non-renewable resources like metals and minerals or the renewable resources like grasslands, forests, croplands, and oceans. To achieve affluence for development man engaged himself in unlimited exploitation of the treasures of nature. The affluence seen today is not real but has come all of a sudden with application of technology to exploit the accumulated wealth of nature. This loot continues today both in the rich and in the poor countries in the name of development, although it is the rich countries which collect the cream when it comes to sharing the profits. According to the well known African statesman Julius Nyerere, in the decade between 1965 and 1975, the annual per capita income of the poor countries increased by about Rs 16, while in case of rich nations the annual increase was Rs 1040.

The wealth of the rich nations has been generated on the basis of industrial production. They have popularised their mode of development all over the world. Their standard of development has become ideal for the poor countries. To achieve this ideal, they invite the rich countries to help them. That is how the multinational companies are working in poor countries. According to Thakurdas Bang, multinational companies of the United States earned a profit of 274 per cent during the period 1950-65. These companies evade taxation laws of the poor countries to remit the profits to rich countries. In 1975 alone a profit of 1,000 million crores of rupees was sent to the rich countries from poor countries.

In industrialised nations, industrialisation has created the problems of air and water pollution. Air and water are the two boons of nature to all the living beings. These are the basis of all life. But due to the use of chemicals and burning of fossil fuels, the poison of carbon dioxide, nitrogen oxide and other poisonous gases has spread in the atmosphere. The expensive technological methods to lessen the ill-effects of these have not been successful. Mothers in the city of Berlin are worried during the winter as a large number of children suffer from pseudokrupp due to the concentration of polluted air in certain places. The children cannot withstand it and die. We no longer live in a biosphere, but we live in a technosphere. According to Russian scientists, the oxygen requirements of technosphere are fifteen times more than those of all living beings.

Air pollution has started affecting the plants, besides human beings. The forests of Europe, Canada, and the United States have become the victims of acid rains. The famous Black Forest of Alps, once the pride of Europe, is seriously affected. This epidemic has spared none, whether they are socialist countries or capitalist countries. Dr Remrod of Sweden, speaking at the Ninth World Forestry Congress, Mexico said: “Our collective future is at stake”. Air pollution threatens the forests in three ways: (i) The pernicious gases, acid elements, etc. mixed in the air in which the trees respire, destroy

their leaves and this destabilises many internal processes; (ii) acidification is gradually affecting the soil; and (iii) the third type of change, which will be seen in a century from now, is brought about by the increase in the amount of carbon dioxide in the atmosphere. This will affect the forests and all forms of life.

We cannot avoid the threat to the forests by adopting technological methods. Acid rain has destroyed about one-third of West Germany's forests and 21 per cent of the 85,000 lakes of Sweden have been affected.

Industrialisation has affected the water in two ways. While, on the one hand, the rivers have been polluted, on the other, requirement of water has increased. Water has to be treated and therefore people have been deprived of the fresh living water of the springs and rivers.

Yet another standard of development is the maximal consumption of energy. In fact, there is not a single moment in the life of modern man when he can do without energy. Energy is needed not only in the kitchen, for lighting and keeping warm but also for moving about and doing several other jobs. Energy is supplied by coal, petroleum products, hydro-electricity, and atomic energy. As we have seen earlier, the main cause of air pollution is the combustion of those things, in the air, which lie hidden in the womb of Earth. Now atomic energy is being publicised as the cheapest means to meet the ever-increasing demand of energy, but the disposal of waste is a major problem. The attempts at storing these underground is very dangerous. According to a report of an all party committee of the British House of Commons, radioactivity of Sellafield Atomic Energy reactor of Britain is found in the deep Irish Sea. The radio-activity was detected in the fishes even in Sweden.

The disastrous effects of pollution are not limited to the rich nations alone, but the poor nations of the world have to pay the price of maintaining the affluence of those countries. In order to maintain the economic system based upon foreign trade, they have to exercise control over the treasures of raw material - mainly oil, metals, and wood. The indirect method of exercising this control is to keep the countries with the stores of these under their sphere of influence through a number of aids. In many countries, the big powers are behind the political upheavals, so that the puppet governments may remain in power. These puppet governments serve the interests of their masters.

In addition to this, they create a war psychosis. Never before in the history of humankind, defence expenditure has been so high as is in our times. During the Second World War it was three per cent. In this war, which was fought to establish peace, 30 million people were killed, 30 million injured, 20 million had to leave homes and 30 million houses were destroyed. Although it is claimed that our civilisation is taking us towards peace, the expenditure on defence is now six per cent. This amounts to 800 thousand million rupees (approximately 64 thousand million US dollars) per annum. The nations standing at the peak of development claim the greatest expenditure of all. Unfortunately, there is seen to be an astonishing increase in the defence expenditure of the poor countries, where the people do not even have food to satisfy hunger, clothes to cover the body, and a roof to provide shelter.

War has become an industry. This industry makes a significant contribution to the economies of rich nations. To keep it intact, they maintain an atmosphere of danger from

their neighbours, arm the poor nations and, by supplying arms to them, play the important role of being their defenders. These defenders take their desired things in lieu of arms.

To adopt the defence and development strategies of the rich, the poor countries need foreign exchange. For them, foreign exchange has become more important than God. In order to earn it, they even auction away the fertility of their soils. The destruction of tropical forests, which is taking place at the rate of 32 hectares a minute, is being discussed with great concern. These forests lie in the poor countries of the world. So long as the so-called civilised people had not entered these areas, the people living in these areas got their food from these forests in the form of wild fruits and roots, and by hunting. Since the industrial civilisation is based upon the exploitation of nature, the exploitative methods of cereal cultivation, animal husbandry, and the lumbering of forests started. The wood from these forests began to be exported to Japan, Europe, and America. These exports, which amounted to 4.2 million cubic metres in 1950, went up to 66 million cubic metres in 1980 - an increase of 1500 per cent within 30 years. Why do the rich nations import wood? I wish to put before you whatever I heard in a conference of foresters and environmentalists of the United Kingdom in April last. The environmentalists complained about raising conifer plantations, which are injurious to the health of the soil. The foresters replied: "We have to import wood from the poor nations and this affects their ecology adversely. So we have to become self-sufficient in our wood requirements". The environmentalists immediately reacted and said: "We are a trading nation. Why should we not sell there what we manufacture and since trees grow fast in a tropical climate, they should produce wood for us." The same discussion took place in the first Environment Convention of West Germany in June 1986. In Germany, the ecological movement is strong and they are looking into the problems in the global context." "What is Germany doing to save the tropical forests?" In reply to this question, the Government said: "We are giving economic aid". But when I raised the issue that if they were to stop the import of tropical wood, it would be a practical step and that they would then also exert a moral influence on other countries; the wood industry's reply was, "we import only a little, 1.5 million cubic metres while we export 29 million cubic metres to other countries". When the delegates wanted an explanation to understand this enigma, they were counter-questioned: "Can you give up playing the piano? We import tropical hard wood because it is cheap, strong and beautiful. Many special things are made out of it." I have to say with a heavy heart that wood is imported from Ivory Coast to make coffin-boxes in Switzerland because its a symbol of prestige.

Not only this, Japan maintains buffalo farms in the Amazon jungles, to meet its demand of beef. The United States also imports beef from South America. Soil erosion, climate change, drought, and famine have become a common and regular phenomenon in these countries. The tropical forest ecosystem is far more complex than temperate forests. There are thousands of small species in a small area. They are interdependent. Clear felling of these forests have resulted in extinction of many species. There are 66,000 endangered species, which is somewhere between 20 to 25 per cent of all plant species. These will become extinct by the year 2,000. Their number in 1970 was estimated to be 20,000.

We should not entertain the misconception that these events are taking place in countries faraway from us. As a matter of fact, the tropical forests are the oxygen banks

of humankind. In addition to this, the forests are the sinks of carbon dioxide. That is why the destruction of forests have caused global anxiety. Our forest area in India has been reduced to half after independence. It is now 11 per cent, although it should have been 33 per cent. Even in this 11 per cent, the forest with more than sixty per cent density, which is really capable of checking soil erosion and water conservation, is far too less. The history of commercial exploitation of forests is not older than the beginning of last century. When the oak forests of England were exhausted due to the expansion of her trade and wars in Europe, they needed strong timber to build ships. In its search for this, the East India Company found Malabar teak suitable. Thereafter began the exploitation of forests for railways and meeting the growing demand of expanding cities. The forests were wiped out to meet the requirements of two world wars. 4.2 million hectares of forests were destroyed for agriculture expansion, dams, and other development projects. The story of commercial management of land is related to the Western type of land development. This has affected the forests.

The natural mixed forests were converted into mono-culture forests of fast-growing species. This converted forests into timber mines and stores of industrial raw material, but impoverished these of soil and water - the two basic capitals of humankind. Due to the coming up of coniferous forests in hills, the sources of springs dried up. At least 45 per cent of water sources dried up in the Kumaon region of Uttarakhand during the last thirty years. It has affected the flow of the rivers and ultimately had an adverse effect on agriculture and hydro-electric generation. On the other hand, our requirements of water are increasing. India will need three times more water by the year 2025 as compared to 1975. The dams built across the rivers are being fast silted up. Their life has been reduced to half and in some cases, as in the case of Kalagarh dam over Ramganga, even to one-fourth. The situation is even more serious in Western Ghats, where the rivers are not replenished by glaciers as in the Himalayas. All our fertile plains lie in the basins of rivers and their fertility is due to the fertile soil brought by the rivers from their hill catchments. While the mixed natural forests are the mothers of rivers, these are also the factories of soil manufacture. Due to the destruction of natural forests and conversion of these into mono-culture pine forests, these factories have ceased to function. Now the Himalayan Rivers carry along sand, when in flood and are gradually converting the fertile Indo-Gangetic plain into a desert. According to some estimates, the rate of desertification is one per cent per annum. It is evident from the widening of dry rivers in Himalayan foothills from Jammu to Siliguri.

Another aspect of deforestation is clear felling of the forests to plant tea, coffee, cocoa, and cashew nut trees in Western Ghats. In Mangalore district of Karnataka, where old trees were felled, the monkeys living on these climbed down and this resulted in the killer “monkey fever”.

There is now countrywide tree-consciousness due to the calamities of floods and soil-erosion, but this consciousness has taken an altogether different line, because people have no idea that a forest is a community of living things, greatest of which is the tree and there are trees of different species, bushes, grasses, birds and animals. In the absence of this knowledge, there is a fierce competition to grow only the tree-species which are quick money earners. Even on fertile croplands eucalyptus and poplars are being cultivated on a large scale. Both these quick money-spinner species take more nutrition

and water from the Earth. The multinational companies, which run match and rayon factories, are showing great enthusiasm in popularising these species. It will undoubtedly have a devastating effect on the agricultural-based economy of India.

Agriculture has become dependent on oil and we are in away consuming oil as our food. Fields have become addicted to chemical fertilisers. The ever-increasing need for irrigation has also affected the level of ground water.

The devastating effect of deforestation on agriculture in the United States should be an eye-opener to all. When Columbus had stepped on the shores of America, there were 800 million acres of forests. These forests were continuously felled for the sake of development. Today there remains only 55 million acres of forests. There is no doubt that the United States has made record production of cereals, but agriculture there is no more a culture, but a business. According to Wes Jackson, the learned author of *New Basis of Agriculture*, this country has lost four million farmers in the last fifty years. In a single year, 37000 farmers had to give up their job. There remained no hereditary farmers. The fertility of agricultural land is also decreasing.

One of our critical problems is that of large-scale soil erosion. According to B.B. Vohra, 6000 million tonnes of our fertile soil is being lost due to soil erosion per annum. In addition to this soil, fertilisers worth Rs 7000 million a year are also lost.

Pollution is the common problem of the rich and poor countries alike, because it was conceived in the womb of development with affluence and it begins with increasing the sensual desires of human beings. Hence till it is uprooted, there is no hope of getting rid of it. At present, majority of the countries, which have been christened as developing, less developed and undeveloped countries, face the problems of soil erosion and water-scarcity, but with the adoption of Western model of development with centralisation of industries, air, water and noise pollution problems are also acquiring a complex form in the cities of these countries. The density of population is relatively high here. Hence the ill-effects of these problems produce even more dangerous consequences. Bhopal gas tragedy is not only a living example of this, but also a warning for us.

Those who join this race of development cannot escape war, since there is the lure of having markets and the sphere of influence behind war preparations.

Then comes the question of poverty. The main cause of poverty today is the exploitation of the poor to keep up the affluence of the wealthy. The famine of Ethiopia has proved how (he common people suffer due to the auctioning of soil fertility.

That is why the wise men in the world have again and again raised a voice against this self-destructive civilisation. This voice was heard in the West itself in the last century. In England Ruskin challenged this development. In America Thoreau revolted against it. He said: "I wonder why the village hell does not toll when the next tree is felled. The trees continue to be felled and instead of a bell for the ceremony of progress it turns to be the death knell. The squirrel has jumped to the next tree, but the axe man is preparing to hit at its roots too. But the human race has lost its way. The road from savagery does not lead to noise, materialism, and life. In order to find the right way, one has to return to the realities towards his roots. It is from these we can precede towards real civilisation, not towards an artificial life".



But Thoreau was branded a mad man by his contemporaries, though his ideas are a gospel to the youth fed up with hollow materialistic Western civilisation.

Whatever Thoreau and Ruskin said could not be accepted on the mental level. The industrial revolution had made the intellect of the individual, and especially the professional intellect sharp. There the human has succeeded in knowing the mysteries of the physical world, but could not acquire the other power which since time immemorial has been influencing the human beings and whose impact has been so deep and permanent that the national boundaries and time factor could not eliminate it. That was the power of the heart. This power has been manifested during human history by a number of great personalities. India has been fortunate to be influenced by this power since Vedic era to the present day.

The materialistic civilisations were born in countries surrounded by seas and they look to trade for their development. They established their supremacy over new countries after suppressing their old cultures and established a new order based upon the exploitation of human beings and nature. In India, the seers in the woods meditated deep over the problems of humankind. They explained the human relationship with nature in terms of mutual harmony.

During the long range of history, we find that whenever people forgot this message, there have been great personalities to remind the society of this. Gautam Buddha was one of these. Buddha was not a sanyasi (hermit), who had left the world and lived in the woods. He was son of a king, He was not after the temporary means to alleviate miseries like our present-day politicians; he was in search of permanent means. This search was not possible while sitting in the palace. So he left the palace. He experienced all agonies including hunger. When the prince reached the final stage of realisation, he took a firm resolve: "I shall not leave this seat till I receive inner light, even if my blood is dried, flesh decomposed and the bones melted in this attempt". A fierce tug-of-war was going on inside his heart. His heart was being invaded by many ideas. But the prince chased and defeated these. Really that was a fierce struggle causing drying of blood, decomposition of all flesh and melting of bones.

But he came out victorious from this battle. When the day dawned, he felt his heart was illuminated. He had achieved perfection and had become the Buddha.

After this penance, whatever Buddha preached, gives a glimpse into the message of Indian culture. "This world is full of misery. Life is misery, old age is misery, illness is misery and death is misery. Meeting is undesirable and departure from the dear ones a misery; unfulfillment of desires is misery. Life which is not detached is miserable. This is the first eternal truth."

During the medieval age this message was kept alive by the saints. They spread the message through devotional songs in commonly spoken language. Such saints have been all over the country. The two less know, whose message is relevant in the context of present-day problems, were Zambhoji, born in the desert state of Rajasthan and Nund Rishi in the Himalayan State of Kashmir. Like other farmers Zambhoji kept cows. Rajasthan, as today, had the occurrence of severe droughts and the people migrated to other states with their herds. Zambhoji during one such famine, stayed back with his herd. He pondered over the causes of Nature's wrath. He reached (his conclusion that it

was due to human beings' misbehaviour with Nature. So, he made twenty-nine rules of good conduct. When people returned, they listened with great attention to his teachings and acted accordingly. In those days, people count only upto twenty. So the followers of these twenty (bees, and nine (nau) rules were called "Vishnois". Two of the rules were: (i) not to fell green trees, and (ii) not to kill wild animals. In this way conservation became an integral part of the faith. Vishnois went to the extent of sacrificing their lives for their faith. This was called "saka". The biggest of such sacrifices (saka) took place on the tenth moon day of Bhadrapada (September) in Khedjadli village of Jodhpur. Maharaja Ajaya Singh needed wood to burn the lime kiln to build his palace. There was no wood in the desert. Somebody suggested there were big trees in the Vishnoi village of Khejadli. Maharaja's axe men went there. As soon as they started axing the tree, a lady Amrita Devi, who was churning milk inside heard the sound of axes, she challenged: "Stop. This is against our faith". The haughty official replied: "If you have to protect your faith, pay fine to the ruler". But Amrita Devi said: "It is an insult to the faith to pay a fine to protect it". She immediately decided how to save the trees: "It is cheaper to give one's head to save the tree". She hugged the tree. She was axed to death. She was followed by her three daughters. The news spread like forest fire in the neighbouring villages. In all 363 men and women sacrificed their lives. This is the first event of this kind in the history of the world. Richard St Barbe Baker, the grand old man of trees was moved when he heard of it and he spread this story in 108 countries of the world through the branches of "Men of the Trees".

The second example is of Nund Rishi - Sheikh Nur-ud-din Wall - who was born in Kaimuh village of Kashmir in 1375 A.D. He was the son of a poor cowherd. He was an extraordinary boy. The mother sent him to the religious teacher for education, but he refused to learn anything except "Aliph" - the first Urdu alphabet, saying that Allah (God) is one. He was left to wander free in the woods. "In the lap of Nature, he quietly gleaned knowledge of the spirit from mountain and field, the sky and the sun. Thus Nature became the Sheikh's first teacher". He started living in a cave while young and lived upon vegetables for many years; for twelve years on milk and thereafter on spring water. He used to go from village to village preaching. Living on the hill top in the midst of woods, this Saint said: "Yeli van poshan, Teli poshi an" (when forests last, then alone food will last). He with his experience and wisdom could know this scientific truth that the two main products of the forests are soil and water, which are the basic capitals for the cultivation of food grains. The FAO has spread these words of wisdom on World Food Day in 1985 all over the world.

European traders also entered Indian at the end of fifteenth century. They were discovering many parts of the world during this period. They had entered America and driven away the natives, snatched their land. In an attempt to civilise the natives, they destroyed their culture and lifestyle in which they lived in perfect harmony with Nature. According to an authority on the life of Indians in Bay area, the missionaries did all that they could do to make them miserable. "To make the Indians into gente de razon, however, involved more than teaching them morality and religion: they had to learn the practical skills of European life as well. The women were set to work, spinning and weaving cloth - although they had no use for clothing during summer and during the winter their own rabbit-skin cloaks provided far more warmth than badly made mission

cloth. The men were made to till the soil, even though plentiful game, fish, nuts and seeds were all around them, free for the taking.”

These people had achieved a humanitarian lifestyle while living in close communion with nature for centuries. Instead of exploiting nature, they maintained a balance with nature. There was an economic system, which was based on sharing instead of competition. They respected restraint. There were opportunities for creativity. There was a government system free from exploitation and with a spiritual outlook towards the rest of the world. We are trying to seek these values.

The historical statement of Seattle Red Indian Chief of 1854 in reply to the proposal of Washington’s white chief to buy their land, gives the living expression of their feelings towards Nature. It begins with “How can you buy or sell the sky, the land and the sun. This idea is strange to us. We have no right over the clean climate and the holiness of water, how can you buy it? We are a part of the Earth - and the earth is a part of us. Fragrant flowers are our sisters. Deers, horses, eagles are our brothers, Rocky hilltops, sap flowing through the pastures, heat of horses’ body and men - all are the members of one family.”

This is the best and most serious statement on environment given 132 years ago. Several thousand years prior to this the Vedic seer in *Prithvi Sukta* said: “The Earth is our Mother and we all are her children.”

The Western civilisation, in spite of English education and the British rule, could not eliminate the Indian culture, because it made man introvert. Progress in it was regarded as knowing the mysteries of the inner world. The English education and civilisation, instead of making the thoughtful Indians flow with it, inspired them to look to their glorious past. A new renaissance was born, which was pioneered by Raja Rammohun Roy. Raja Rammohun Roy, Maharishi Dayanand, Swami Vivekananda, Shri Aurobindo, Gurudev Rabindranath Tagore - all contributed to an increase of the flow of the Ganges of the Renaissance. Jagdish Chandra Bose, who with his research about the life in plants, brought about a new revolution in science, also lived during this era. Whatever the author of the epic Mahabharata had said centuries ago, that the trees feel heat and cold, joy and sorrow, was proved by Dr J.C. Bose by his scientific experiments.

But it was Gandhi who brought a storm in the Ganges of the Renaissance. He started finding solutions to global problems, making India a symbol. Gandhi challenged the definition of progress given by the materialistic civilisation where having more and more was regarded as progress.

Gandhi had expressed these views in 1909. His ideas regarding the new society progressed on this basis. Communities should be self-sufficient in their basic needs of food, clothing and shelter from their surroundings. He believed in the ethos of productive labour. The answer to the major problems of our times, especially of pollution is hidden in decentralised production. Big factories are the main cause of air and water pollution. The foul air and polluted water as effluents are the main pollutants. When production is centralised, slums are born. Our big cities are industrial centres and as such have all these evils. The centralised production systems have exploited the earth and have given birth to unemployment and helplessness. It has put the producers and the consumers on two distant corners and in between the two has created an army of unproductive people -

managers, traders, brokers, advertisers, and transporters. The individual liberty is at stake, because centralisation of economic power leads to the centralisation of the political power.

Gandhi, while giving his views on the reconstruction of India, had clearly said: "The earth provides enough to satisfy every man's needs, but not enough for anybody's greed."

The solution of present-day problems lies in the re-establishment of a harmonious relationship between man and nature. We shall have to digest the definition of real development to keep this relationship permanent. Development is synonymous with culture. When we sublimate nature in a way that we achieved peace, happiness, prosperity and ultimately fulfilment along with satisfying our basic needs, we march towards culture. We are not doing sublimation of Nature, but are butchering her in a quest to satisfy our never-ending desires. So we see perversion (vikriti). War, pollution, and poverty are the forms of that perversion. War is the collective manifestation of individual dissatisfaction. Countries on the top of material prosperity are the biggest war-mongers. They have diverted the dissatisfaction of their citizens towards war psychosis. The countries, which are non-aligned, there the materially prosperous areas have become the centres of communal violence or extremism. In the same way, pollution is the gift of materialistic civilisation and poverty is the result of these two. If we want to replace war with peace, individuals shall have to adopt austerity - ending of desires. Individual satisfaction manifests itself as social peace.

I want to make a clarification about the basic needs. Once food, clothing, and shelter were regarded as basic needs, but now oxygen has become our first priority. Our next demand is clean and living water. We need fertile top soil to fulfill other basic needs.

In the present centralised system of production, it is ridiculous to think about the easy availability of these, but the truth is that no big stock of oxygen can be built. A person needs at least 16 kg of oxygen in a day. Russian scientists have found that our oxygen requirements have become higher than the normal, because we now live in a technosphere, whose oxygen requirements are fifteen times more than all living beings. Is it possible to get so much oxygen free of cost in a market economy?

The same is true of water. We get our water supplies in big cities from reservoirs. According to the researches made by Austrian physicist Schauburger, the living element of water dies as soon as it is impounded or piped. We are all drinking dead water and the availability of even that is decreasing. In the beginning of the Sixth Five Year Plan there were 17,112 villages with water scarcity in Maharashtra. It is expected that 15,302 villages will be provided with drinking water during the Seventh Five Year Plan, but the underground water level is lowering fast in problem villages and their number will be 23,000. There is water scarcity in the hill districts of Uttar Pradesh. Out of 2,700 drinking water schemes implemented by the State Government, 2,300 have become unsuccessful due to drying up of the sources. In West Bengal 2,300 persons died due to gastro-diarrhoea and other water-borne diseases in the beginning of 1985.

The problem of soil erosion and salinity is also very serious. In India at least one-fourth of the total land area - 58 million hectares of agricultural land and 6 million hectares of forest land, is seriously affected by acute soil erosion. The flood-affected area has increased from 20 million hectares to 40 million hectares during the decade from

1971 to 1980. There is danger of salinity to 20 million hectares and water-logging to 90 million hectares of land irrigated by canals. Whatever production has increased is due to the use of chemical fertilisers and irrigation. The chemical fertilisers, and mainly the nitrogen, have made soils addicts and the living soils into dustbowls. This system has made some countries very rich but their land has become very poor. When the demands of a growing civilisation exceed the land's capacity to recover, soil erosion begins. Soil erosion is the symbol of disparity between the society and its surroundings. Berry and Jackson, the American agricultural scientist and author expressing the plight of his country said: "This is a tragedy in the history of agricultural development, in which we have lost the fertile soils; farmers, farms and the cropland."

The way to overcome this crisis was shown by our culture-Nature is the source of permanent peace, happiness and prosperity of humankind. His happiness is related to his living in harmony with nature. There will be peace around and he will enjoy more prosperity. The first principle of this is that our living should be more and more dependent on the renewable resources. These resources are derived from pastures, forests, croplands and oceans. The capacity of these to regenerate is showing a decrease due to over-exploitation and the production is going down. Whatever is shown as increased production that was not a real profit but a part of the capital? The main problem today is to halt the decrease of capital by building up a lifestyle in which the harmonious relationship between human beings and nature is re-established. The milk of mother Earth is not only for human beings, but for all her children - all living beings. That is why the poet has described the Earth as the one who rears all. The whole Earth is a family.

I feel that the most practical way in this direction is tree farming. We will get rid of the problems of air and water pollution, erosion, salinity and water-logging from this, besides getting enough oxygen and clean drinking water. The humanitarian scientists have reached this conclusion that the only solution to the problem of increasing population and decreasing cropland is producing more on less land. When the land is used to produce animal-protein - we get 100 kg beef from one acre of land in a year. The same land will produce 1 to 1 1/2 tonnes of cereal, 7 tonnes of fruits, 10 to 15 tons of walnuts. If we can get trees giving edible seeds for humans and cattle, we can grow 15 to 20 tonnes on the same area besides increasing the fertility of soil. Tree farming is the only way to heal up the wounds of Mother Earth created by plough-shear during the last 10,000 years of agriculture. This will give an opportunity to human beings, animals and birds to survive together. The humans desperate to have the company of nature in the midst of affluence will not have to establish botanical gardens and zoos. The whole earth will become a garden - a garden where oxygen, water and food will certainly create a favourable environment for creativity - the development of art and literature.

The basis of the Western civilisation has been industrialisation. Often the question is raised what will be the place of industrialisation? I have already clarified that consumerism is anti-culture - perversion - because it makes human beings the butchers of nature.

There will be industries to fulfill the basic needs of human beings, but barring a few big industries which cannot be run on a small scale, all the industries will be decentralised. Every family and the village will become the temple of industry. This definitely needs a revolutionary change in technology. Instead of capital-intensive

technology, labour-intensive pollution-free industry will have to be developed. The energy requirements of this will as far as possible be met with renewable resources - human and animal power, water, wind, solar and biogas, etc. - on decentralised basis.

What Gandhi had dreamt in the beginning of this century, it seems, is the only alternative for the survival of humankind sitting over the store of arms. The two superpowers are negotiating to listen to the voice of non-alignment and disarmament, raised from Gandhi's country and to end the arms race. Though there has been no change in their activities, yet more optimistic is the voice raised in the affluent countries against their lifestyle. The most powerful voice is that of the Green Movement which has made a place for itself in the politics of West Germany and is influencing the national policies. I had an opportunity to participate in the first National Convention of German Environmentalists held in Wursberg in June 1986. On the entrance of this Conference was an exhibition on the life and work of Mahatma Gandhi. It seemed from their declaration as if the Hind Swaraj of Gandhi was speaking in the context of present-day global problems.

Gandhi had clearly said that he did not claim to give birth to new truths and that he only tried to apply the eternal truths in his own way to day-to-day problems.

Gandhi's speciality was to present alternatives. Authority may be replaced with service, wealth with austerity, arms with peace and ideology with good behaviour. It is strange that Gandhi did not accept ideology, which has for centuries been supporting in one way or the other authority, wealth and arms. He presented good behaviour as an alternative to ideology. He emphatically said: "My life is my message." There can be no better presentation of Indian culture than (his). The new society will stand on these four pillars. In (his) way a new global view is emerging about which Dr Radhakrishnan had said: "The future of humankind lies in finding a co-relation with the past and future and with east and west and establishing coordination between these."

The practical way towards this coordination will be the coming of humanitarian scientists, social activists impatient for a change, and compassionate literary men on a common platform. The wrong direction of science has given birth to the demons of war, pollution and poverty. So, there is need of such scientists to come forward, who instead of letting their knowledge be exploited for the selfish interest of those in authority, act according to the dictates of (their) soul for the welfare of all living beings. In the absence of their active support (the efforts of social activists impatient to bring a change, are being lost. We had such bitter experiences in the Chipko movement for many years, when we declared soil, water and oxygen as the products of forests instead of timber, which is a dead product. We were branded as enemies of science, development and democracy. Though our slogan, "What do the forests bear? / Soil, water and pure air / All of which are the basis of life" had come out of the wisdom of the common people, it was decried till the Indian Science Congress recognised in 1981. The right type of art and literature has always been inspired by high idealism. What other great ideal in our era can there be than (the establishment of harmonious relationship between Man and Nature and getting rid of war, pollution and poverty? If this ideal catches the imagination of literary men, artists, and journalists, they will move the hearts of the masses for a march towards a new revolution. The crisis of civilisation is the perversion born out of the rape of nature in the name of development and the message of culture is the sublimation of nature for

achieving peace, happiness, and prosperity for all living beings. This seems an uphill task, but this is possible. In our culture a noble mission is defined as “yajna” and for the success of ‘yajna’ coordination of knowledge, action and devotion is essential. I regard humanitarian scientists as the symbol of knowledge, social scientists of action, and literary men, artists and journalists touching the hearts of people, a symbol of devotion. They are in a minority, but this is a creative minority. Arnold Toynbee, the famous historian in his concluding remarks on world history said, that the only hope for humankind standing on the brink of destruction is a creative minority. I invite all good-meaning and thoughtful people to join me in this minority for the restructuring of humanity.

### Technical Education and the Environment

We live in a world where human civilisation has touched new heights in terms of progress. The economic growth of the last few decades has equalled all the growth since the dawn of civilisation. We see today that food production has increased 264 per cent, the use of minerals has increased thirteen-fold since 1990, the output of copper and zinc is now 570 and 7,400 times more than in the year 1800 and the annual production of pig iron (the crude metal used to make steel) now stands at more than 500 million tonnes - 22,000 times what it used to be in the year 1700. Similarly, the metal aluminium, which was not even available commercially till 1845, is now being produced at the rate of 15 million tonnes per year. The corresponding advances in the field of energy generation are nothing short of miraculous.

But on the other hand, as the twentieth century enters its last decade, another picture is emerging. It has been found that 20 per cent of arable land has gone out of production due to salinisation, water logging and desertification. (In India, which has the largest areas under irrigation - 59 million hectares - at least 20 million hectares of irrigated land is suffering from salinity and water logging. The production from this land is also decreasing). Similarly, 20 per cent of the world's forests have disappeared during the last four decades. The horrors of atmospheric pollution are becoming well known. Pollution is posing a threat to the survival of all living things. The smelting industry is responsible for acid rains in the industrial countries. Water pollution and its scarcity is posing yet another problem to mankind. It is estimated that per capita availability of water will decrease by 24 percent by the end of this century, as compared to 1983. Many states of India, notably Bihar and Maharashtra have experienced drought last year.

The single cause for all these woes was the adoption of a wrong definition of development, a definition which aimed at more production, without taking into consideration other human factors - cultural, social, ecological, and spiritual. This has changed man from homo sapien to homo econumus. Economics is the new religion of mankind and the dollar its God. This religion of economics views nature as a commodity which can be marketed.

Production is no longer oriented towards fulfilling the needs of all. On the contrary, it promotes and feeds a consumer oriented society. “Development’ has created a consumer class of 1.1 billion people - 20 per cent of the earth's people use up more than 80 per cent of metals and paper, 75 per cent of energy and limber and 42 per cent of the fresh water

resources. They have forced 20 per cent of their own kind to survive without sufficient food grain and safe water. This has created a perpetual fear of war, internal insecurity and hunger. The regions that have reserves of minerals and metals have become a bone of contention for the industrialised nations. These regions are dominated by those whose economies are fuelled by “oil”, as we saw during the Gulf War.

The poorer countries, who have similarly joined the mad race for development, are exporting the fertility of their soils, their water and minerals to earn foreign exchange. In India, we have converted the hill watersheds of our southern rivers - which regulated the flow of the rivers irrigating the agricultural lands, and generated hydro-power - into eucalyptus and conifer fields and tea gardens. Maharashtra, which is facing acute water scarcity, is mining its underground water to grow sugar cane as sugar is now being exported. Similarly tobacco, onions and other vegetables and fruits, meat, etc., - all water intensive produce - are being encouraged for export. The value of food products exported has gone up from Rs 19,080 million in 1985-86 to Rs 61,950 million in 1991-92. A fifty per cent rise is expected this year alone in India.

Two hundred and fifty-four million people have been officially acknowledged as living beneath the poverty line in India. According to another estimate, 50 per cent of Indian families consume food which is quite inadequate to satisfy their minimum requirements of either calories or of protein, or even both. Eighty-five per cent of children in India suffer from malnutrition. The common people pay for the life-style of the few. The impact of export orientation upon poor nations is that the consumer society gets cheaper products, while the citizens of the exporter country get pollution, land degradation and destruction of forests. Electricity is used by industries which produce exportable goods. Most of this electricity comes from gigantic hydro-electric dams that flood forests and displace poor people from their ancestral land. The monstrous Tehri dam in the Himalayas will displace 86,000 hill people living in 125 villages and in Tehri town. The only justification for this dangerous venture in a highly seismic area is that it will generate 2,400 MW of power for industries and big cities, and extra irrigation water for western U.P., which is already saturated with irrigation water. But of course, this extra water will help in converting wheat fields into foreign exchange-earning sugar cane fields. The dam will also supply drinking water to Delhi - this, from a region where per capita availability of water is 10 litres a day in some villages!

The Green Group in the European Parliament has rightly said, “For too long progress meant modernisation. So has what the west calls “development”. However, we believe that national and global economic policies that destroy the environment for present and future generations and cause injustice can no longer be defined as development. They must be recognised as exploitation.”<sup>4</sup> The famous Gandhian economist Dr J.C. Kumarappa has termed this kind of economy as the “parasite economy”. This prevailing school of economic thought is “built upon the quicksand’s of profit, price, purchasing power and foreign trade.”

Science and technology have played a major role in accelerating the pace of economic growth. It seems now that the sole objective of technology has been to devise ways and means to plunder the treasures of nature. The twentieth century saw three types of political systems, the socialist state, the capitalist state and the military state - the labels



were different, but their goal was one - exploitation. They have prostituted science to achieve their exploitative goal.

Can we create an exploitation and pollution free society? The aspiration of humankind has been to progress from “nature to culture” - Prakriti to Sanskriti, whereas, we are trapped in a situation where we have traversed from Nature (Prakriti) to Perversion (Vikriti). In a truly cultured society, the individual as well as society, both enjoy permanent peace, happiness and fulfillment, but the present system only encourages Greed (Trishna). Buddha, who was in search of a way to end human miseries, found that the root cause of misery was greed, and the only way to get rid of human misery was to end all greed (Trishna Kchhaya). He differentiated between need and greed. Our needs should be fulfilled. For this, of course, we shall have to depend upon nature, but what should be our relationship with nature? The answer is very clear, that of a child with its mother - the child sucks the breasts of the mother - the mother’s role here is of service. Kumarappa calls it the “service economy”.

Now for the role of science and technology. The industrial society created a scientific community, a sort of priesthood. “In many ways the scientists are the priests of our industrial society...They have couched their holy texts in an esoteric language, which no outsider can understand and which confers upon them an aura of mystery and sanctity. They have defined truth in such a way that they alone have access to it, for it must be established by a set of scientific rituals which only they can perform. Only they possess the necessary scientific skills: only they are equipped with requisite scientific technology, only they have access to the holy places where in order to be valid, these rituals must be performed.” Science, which is the exposition of the truth of the physical world, should be presented in such a simple and understandable form, that everybody is able to assimilate it. In the Chipko movement, the activists explained the value of the forests to simple village folk, especially the women, through popular folk songs and thus came the famous slogan:

What do the forests bear?

Soil, water and pure air.

Soil, water and pure air,

Are the basis of life.

Similarly, the ‘Save Himalaya Movement’, which has come forward with a blueprint for the survival of the hill people, says:

Dhar ainch pani (Water on the hill top)

Dhal par dala (Trees on the slopes)

Bijli banawa khala khala (Generate electricity from every water source)

We have to devise a technology to take these messages to the hearts of the people. But no efforts can be successful, till we profoundly feel what we think, and act accordingly. In the present system, we possess a big mind - too much knowledge, feeble hands and no heart. The result is therefore, an exploitative technology. Vinoba Bhave, the walking saint of India, rightly said:

“Science plus Politics = Atom Bomb - Destruction.  
Science plus Self Knowledge = Sarvodaya - Good for All.”

We need another technology to correct the mistakes of technology, and the source of that technology is the human heart. All the great teachers of mankind - Buddha, Jesus and Gandhi - were the experts of that technology. They identified themselves with the common people, experienced their sufferings and thereafter, came forward with practical solutions. Prayer was an integral part of Gandhiji's daily life. Experiences of great social activists like Dhirendra Majmudar should form an integral part of our technical education. A meaningful way for the students to acquire the wisdom of the village folk would be to spend some time in the villages and learn from them, and discern from their experiences the knowledge which they have gained after generations of the struggle for survival. One traditional and helpful example of this was the method of tank irrigation in India, which unlike the modern system of big dams and big canals did not trap the fertile soil which only creates salinity and water logging. These tanks were regularly dredged and soil was taken back to the fields. This helped in recharging the ground water. In the hills the system which is beneficial, is utilising gravity channels and reservoirs which are managed by the community. In the urban areas the breaking up of communities is the curse of modern technology, as it encouraged centralised management, state ownership and finally individual interests. Technology should aim at rebuilding the community so that the people can be freed from the bondage of the powerful bureaucracies which have a strong control over this system.

Technologies should be devised to help the community in becoming self sufficient in the fulfilment of their basic needs of oxygen, unpolluted air, clean drinking water, nutritious food, shelter and clothing, unlike the centralised system which creates pollution and exploitation and where production is done basically to meet the requirements of the market. In this case, we see that there is no real relation between the producer and the consumer, only an unhealthy ground for the growth of unproductive parasites like the managers, brokers etc., who do not make any useful contribution to the system except make a profit for their pocket.

Energy plays an important role in production. We have imported energy technology from the West, which was implemented in an exploitative manner because we were a colony of the empire. The philosophy of energy development evolved in countries like America where natural resources are vast and the climate is cold. Thus the priorities in energy development were thermal, big hydro-electric dams and nuclear power. All these technologies are disastrous for India, since the population density is high and the land is limited. Our energy priorities should be human, animal, bio, solar, wind, tidal, geo-thermal and hydel from run of the river. One of the major problems is to provide work for the people. Our first priority should be the introduction of machines so that it increases the efficiency of the worker and lessens the drudgery of his labour. We have invested a lot of money in the production of the Maruti car but have paid scant heed to improve the quality and cost of bicycles. The bicycle is the best mode of transportation as it neither produces noise nor emits smoke, and also takes up less space. It is healthy for a person to travel one kilometre on a bicycle as one spends only 22 calories whereas walking takes up 62 calories and more than 1153 calories are spent when travelling by car.

India is very fortunate to have 280 sunny days in a year, yet very little is done to harness solar energy, and development of wind mills is too slow and practically nothing has been done in connection with tidal energy.

There has been an obsession for building big dams like the Sardar Sarovar, the Narmada, Koel-Karo in Bihar, and Bedthi in Karnataka, whereas harnessing of the Himalayan rivers for small hydro-electric projects has been grossly neglected. Big dams are anti-social, ecologically disastrous and economically too costly. Big dams are the short term solutions of a permanent problem, more so in Asia where there is a high rate of siltation (13 times more than the European rivers). There is an urgent need to educate the village communities in this respect and implement some community owned projects.

We should have a very clear picture of the society we want to build. It should be one which guarantees peace, happiness and fulfilment to all and not one where a few exploit nature and the toiling masses and create hell on Earth. This can be possible only if science and technology sublimates nature. This process will serve a dual purpose, firstly, it will help in healing the wounded Earth and bring back her reproductive strength and secondly, it will spiritually enrich the scientists and technologists. This will also give an impetus to their creativity, which at present is destroyed since our system is too market-oriented. Creativity should be one of the main objectives of a sound educational system. Small scale production has always encouraged creativity, which is visible in all works of art.

Gandhiji had started the work of building a decentralised, non-violent society. He had established the Village Industries Association, which is still active in doing very useful work in this field, but this is being done on a very small scale. Let the Indian Society of Technical Education with its highly trained and qualified members take up (his challenge of rebuilding the society for which mankind has been aspiring since the beginning of civilisation. It should be easier now, since the world has become smaller and humans have learnt a lot from the failure of the capitalistic and socialistic systems. The need of the hour is a humanitarian system, and India with her rich cultural heritage and spiritual background, is suitable for this experiment. We should bring together creative scientists, social activists, and compassionate literary men to fulfill the dream of creation of this society. These three represent the head (Gyan), hands (Karma), and heart (Bhakti), and the combination of these can only culminate in the success of this noble mission (Yagyan).

### **The Crisis of Indian Democracy and the Way Out**

The crisis of instability before the largest democracy in the world will not prove detrimental to India alone, but prove a great blow to the faith of the people in other countries where democracy is limping and staggering. A few years back, I met a professor from Pakistan at Amsterdam airport. He was very critical of the policies of India, but still said, "In spite of this, you are very fortunate that you are not being governed by a dictator, like us. We are striving for the revival of democracy." We are going to elect our representatives for the eleventh Lok Sabha. Election is the greatest festival of democracy. It gives an opportunity to the people to evaluate the performance of their representatives once in five years. The political parties have started throwing up

slogans like stability, ending corruption, and lessening unemployment and dearness to allure the voters. But will all this be possible? The biggest and the oldest political party in the country has given a signal of instability by making election alliances. There is not a single party which will be able to form a stable government alone.

Coalition governments could never complete their terms. So far as the ending of corruption is concerned, corruption has become a form of etiquette. Since 1990, I have approached all the three Prime Ministers in connection with the rampant corruption relating to the Tehri dam. One reply was, "It does not matter, if there is misappropriation of a few crores in a project of billions." The second observed silence, and the third replied, "Is there any place free of corruption? It is omnipresent." Now big scams like Bofors, the Share market scam and Hawala have become an umbrella for all the small cases of corruption. Thus, there is no hope that the fourth Prime Minister will probe into corruption, which is evident from the memorials raised in the shape of the palatial buildings of officials, their luxurious life and the welcome gates erected from Rishikesh to the Project site. The plea to end unemployment is a joke, especially when there has been an increase from 17.6 million in 1992-93 to 18.5 million in 1993-94, in the number of unemployed persons. The percentage of unemployed in the West and Japan, whom we are aping, is 14 and 3 respectively. Liberalisation has opened the doors for unemployment. Thus, without bringing a fundamental change in the economic policy, there can be no end to unemployment. Similarly, prices are soaring. There has been a rise of fifty per cent in the prices of food grains and lentils during the last five years. It seems that the group of economists do not buy food; otherwise they would not have played to the tune of the rulers and said that inflation and poverty are diminishing.

Welfare state has played an important role to reach where the Nation stands today. It made the government the parents of society and took away self-sufficiency and self-confidence. It strengthened the control of the bureaucracy, and the representatives remained no more the servants of the people, but distributors of charity. The welfare state was present in a dictatorship like the USSR, but in a democracy, it aligned with the politics of a new class of economic beneficiaries. In large projects, such as irrigation projects, political leaders and contractors flourished. They stepped into the area of mining. They did not lag behind in the transport industry. When the economy is personally controlled by the political leaders, the rivers of benefits flow to their relatives. It may be a petrol pump, gas agency or any other contract or permits without bidding.

In such a situation, the ministers, who run the government by suppressing the people's dissatisfaction, instead of relying on their parties and the voters, have created a new class of power-brokers. It is not only a parallel economy but a parallel system which is functioning from behind the curtain. A class consisting of the mafia, goondas and power-brokers, runs this system. This class is supported by those big corporations which accumulate money through illegal trade, Satta and other illicit means, because this gives them security.

Thus the system which runs today under the garb of democracy is based not on the will of the people but brute force. Repeated promulgation of section 144 in the name of maintaining law and order, the deployment of police. Central Reserve Police Force and Rapid Action Force is proof of this. In fact, the need of security guards not only for the ministers, but Members of Parliament and the legislators is increasing, because the

elected representatives have lost trust in their voters. In these circumstances, on what basis do they claim to represent the people? Mac-I-ver, the famous political scientist said, "Will, not force, is the basis of state". This is a new subject for political scientists to study, for a suitable name for the existing system, whose external cover is of democracy, but whose real directive force comes from the outside, from the mafia, goondas and power brokers and, internally, from brute force. When systems degenerate, the name given for monarchy is autocracy, for aristocracy, oligarchy, and for democracy, mobocracy.

In the midst of this darkness, there is a ray of hope. These are the peoples' movements, challenging the policies of the establishment. They are expressing the will of the people by demonstrating the people's power on the ground, rather than through intellectual exercises in seminars. Some of these are the Narmada Bachao Andolan, Fishermen's movement, Save Chilika movement, Himalaya Bachao Andolan and Azadi Bachao Andolan. These movements were born at different places in different situations, but, as is evident from their names, they are aimed against aggression and at self-protection. The aggression is of the development projects born of centralised planning, aimed at benefiting the affluent rather than the regions. The common people are being robbed of their water resources, forests and land - the basis of their survival. These movements have been started by marginalised hill people, tribals and fishermen. They declared in plain words that the gifts of nature cannot be treated as saleable commodities. All living beings (not only humans) have the first right over these resources. This is a challenge to the existing concept of development, which regards nature as a commodity, and society as only of human beings. The establishment is suppressing these movements with its two weapons - fear and greed. The success of this conspiracy will be a great tragedy for democracy. These marginalised people, who, in spite of the onslaughts of individualistic economy, kept the soul of democracy - the community spirit - alive, are the last living representatives of participatory democracy. Though the elements of a corrupt economy and politics have intruded into these communities, their impact is not so intense. The neo-capitalist class, which is the torch-bearer of the new civilisation, has only recently been emerging there. Economic and social disparities are not so great and, above all, the influence of the bureaucracy is minimum.

The people's participation is the oxygen of democracy. This to some extent may be seen in the Swiss political system. The Swiss system was born in the small mountain village of Rutli, seven hundred years ago. The villages established their independent government. Later, other villages from Italian, French and German speaking areas joined them. They evolved a system in which maximum authority was vested in the canton. The national government had minimum powers. All important subjects and the rights to levy and collect taxes are vested with the canton. Every citizen is a soldier. The citizens go for military exercises for some weeks in a year and then, return to their work. The executive, the federal council with equal rights for each minister including the President and Vice-President, is elected from amongst the members of all parties in the federal Assembly, and everybody gets an opportunity to prove his ability and capacity. There is provision for a referendum on vital issues, such as the establishment of a nuclear power station. The people have the right to recall their representatives. So this makes the representatives vigilant about their responsibilities to the voters.

A question may be raised that Switzerland is a small country. Will it not be disintegrating to move in this direction in a large country like India? It will certainly be disintegrating, but whose disintegration? Of corruption, centralised and undemocratic form of political parties, of the trinity of the mafia, goondas and power brokers. Democracy will be healthier and stronger, when people get more opportunities to control the system and participate in decision making. Gandhi gave utmost importance to the village, because direct participation of the people in the system is possible only at the village level. When he made a call to dissolve the Congress immediately after Independence and asked the freedom fighters to sit in the villages, he intended to lay the solid foundation of basic democracy.

Panchayati Raj has been established now, but instead of a self-evolved system, it has come into being as a part of centralised politics. Acharya Vinoba Bhave, who had a deep understanding of the hearts of the masses due to his close contact with them during his countrywide padyatra analysed this, saying that a piece of stone can be like stone not butter.

The question raised at Gandhi's call to the best workers to sit in the villages, was, "Who will manage affairs in Delhi?" Gandhi said, "The second class leaders". One of the sociological causes of continued degeneration in public life is the absence of an influence leadership to control the power leadership. In history, whenever there was a Samarth Ram Dass to control a Shivaji, the government never went in the wrong direction. The influence leader rules over the hearts of the people with his moral authority. Loknayak Jai Prakash Narain had taken a step in this direction, but unfortunately he fell seriously ill.

The other recent tragedy is the politicisation of those non-party people, who had moral influence over society. In spite of this, there is no dearth of such impartial people, who can build an influence leadership. They can be found amongst teachers, judges, religious leaders free of communal feelings, literary men and social workers. Their playing an active role in this hour of crisis is essential.

The position of the parties will become clear after 1.5 months, when the elections are over and the 11th parliament comes into existence. The first and foremost task before the Parliament should be to discuss the burning problems facing the country, and finding unanimous solutions. This will also pave the way for the formation of a government representing all. No single party can fulfill the promises to give stability, end corruption, and lessen unemployment and clearness.

But the main issue is, what steps should be taken to guarantee people's participation in democracy. The three tested prescriptions are: decentralisation of power, right to recall and referendum on vital issues. A debate on the constitutional provision for these should be initiated during the elections.

If the degeneration of democracy is not checked, it may have frightening effects. It will be difficult to check the despotism of those in power or army control over the government, as is evinced in many Asian countries, economic slavery and internal turmoil. Eternal vigilance is a necessary condition for the success of democracy. The influence leadership, suggested above, may play an important role in this. The power leadership should regard it a boon for itself and encourage it.

(This is the text of the speech by Mr Sunderlal Bahuguna, on the occasion of the release of a felicitation volume in honour of Prof. Rajni Kothari on April 2, 1996 at the Centre for the Study of Developing Societies.)

### **Bhakra oustees cry for justice**

Jawaharlal Nehru's words eulogising the Bhakra dam as "a temple of modern India" are often quoted.

However, in his last days, Nehru realised his mistake of neglecting the improvement of the traditional decentralised irrigation system of tanks and wells to meet modern needs, having opted earlier on to copy the western model of big dams.

This change in Nehru's thinking has been confirmed both by Prof. S. Gopal in his biography of his father, Sarvepalli Radhakrishnan, and by Mr Justice V.R. Krishna Iyer, to whom Nehru had confessed as much. But this truth has long been buried deep by the trio of engineers, contractors and political leaders, the chief beneficiaries, who have, by continually singing praises about the Bhakra dam, ensnared the country into opting for big dams. The result, not just a centralised and expensive irrigation system, which has laid waste vast areas by making them unfit for production due to salinity and water logging, but also the creation of millions of 'refugees of development'.

In India, there are at least 20 million oustees of big dams and irrigation projects. Of these, only five million have been rehabilitated, while the remaining live either in slums or in temporary dwellings without employment.

The oustees of Bhakra - the symbol of India's 'progress' -are yet to be rehabilitated even after 38 years. Of the 16,000 oustee families of Pong dam', only 2,500 have been allotted land in Rajasthan, the remaining are still homeless.

The land for the Bhakra dam reservoir, though in Bilaspur district of Himachal Pradesh, was acquired by the Punjab Government's Bhakra Dam Management Board.

A township, New Bilaspur, was established in the place of the old town, but it was decided that villages falling in the area where the reservoir's water-level goes below R.L. 1,600 for part of the year would not be compensated because these lands are supposedly left with fertile silt deposits on which a crop may be cultivated; these lands, it was decided, would be leased to farmers at nominal rates.

One village on such land is Khairyan Luhnu. During acquisition, only a third of the compensation - Rs.10 per bigha to a maximum of Rs.320 per bigha - was given. When the water level came down, the Punjab Government leased the land in 1959 to the oustees who had cultivated it. Over the last 38 years, besides using the land for agriculture, the people have also grown 5,000 trees, some of which are fruit-bearing.

But the problems of the oustees were far from over. The Himachal Pradesh Government acquired their land for three purposes:

- 1) Setting up of a Bilaspur Industrial Area (91 bighas 17 viswas);
- 2) Setting up of an industrial training institute (17 bighas); and
- 3) Setting up of the New Bilaspur Township.

As a result, the farmers who earlier owned 70-80 bighas and had access to forested areas for pasture and for collecting fuel and fodder, were left with only 6-7 bighas.

Subsequent increases in population have left them with average holdings of 1 – 1.5 bighas. Their village is surrounded by an industrial area on one side and by the Bhakra reservoir on the other.

Thus came yet another attack of “development” on the people, who were as it is surviving with great difficulty. On November 29, 1995 the district administration, allegedly at the instance of a minister, is said to have bulldozed sown fields; hundreds of green trees were also bulldozed - all to make space for a cricket ground. For the 50 families of Luhnu, the source of employment was snatched away. Further, it is said that Rs. 22 lakhs from the Jawahar Rozgar Yojana, the Village Employment Guarantee Scheme and training of the Khairyan Nala were spent on this.

The invasion of development did not stop here. On May 30, 1996, the Sub-Divisional Magistrate “showed” (and not “gave”) the people a notice asking them to vacate their irrigated land of Khairyuri for an air-strip. According to the people, the land has been theirs for the last 38 years. The irrigated land is not suitable for an airstrip even on technical grounds because for four months it goes below the submergence level of the Bhakra dam, and for another four months, the weather remains misty in that area.

Detailing the woes of the Luhnu people, the general secretary of the Joint Oustees Sangharsh Samiti of Bilaspur, Mr Baldev Singh Thakur, pointed to the gap between the declared intentions and the actual actions of the Government and said that at a meeting of Chief Ministers, under the chairmanship of the Prime Minister in July 96, it was declared that the State governments would spend primarily on providing the basic needs (drinking water, roads, etc.). But to this day those ousted to establish the New Bilaspur Township still remain deprived of these basic amenities. Even in cases where the people have been resettled in the surrounding hill regions, there are no roads.

Wherever development projects are implemented, society becomes divided into two classes. One, of the poor people who have been sustaining themselves for generations with the local natural resources such as land, forests and rivers; these people stand to lose all, and are, in fact, advised to sacrifice in the “national interest”. The other is of the beneficiaries, for whom a big project is a veritable Kamadhenu (the cow of plenty) - a class of neo-capitalists is created.

The gap between the rich and the poor keeps widening gradually. In his book, *When Corporations Rule the World*, David Korten points out that “the income of the wealthiest 20 per cent of the population is 150 times greater than that of the poorest 20 percent”. In Korten’s analysis, “current trends are promoting not just economic insecurity, but also social unrest, a growing stream of refugees across the globe, and environmental degradation.”

Thus, the Bhakra oustees continue to cry for justice. The deeper lesson is that in the cost-benefit evaluations of developmental projects, land and its attendant natural resources will have to be given an equal share with labour, capital, management and enterprise.

At present, no valuation of natural resources - land, forest, or water - is done. Consequently, not to speak of a share in the profits, the oustees of the Bhakra dam are not



even given water from its reservoir. Justice demands that people of the catchment and submergence area be given one-fifth (20 per cent) of the electricity generated, besides the benefits from irrigation. (July 30, 1996, The Hindu, Business Line)

### The Trick Unveiled

My recent 74-day long Prayaschit (repentance) vrata has created an interesting debate in the press. Some columnists, quoting doctors, have concluded that no one can survive on bael and honey for so many days; others have assumed many things and used all possible words of mockery available in their vocabulary. The confusion has been further confounded by the poverty of the English language, which has no equivalent for the Hindi word vrata. Fortunately Swami Chidanandji, the great Vedantic scholar-saint and my spiritual guide has explained the matter thus in a letter of his:

He (Sunderlal Bahuguna) is not on any kind of a hunger strike (bhook hartal) or any sort of a fast, satyagraha this time. Absolutely not Nothing could be more untrue... He has imposed upon himself a voluntary self-purificatory penance (vrata) as an atonement (prayaschit) for having let down the poor people who were looking upon his long fast, the second of 1995, as an act that would at last secure justice for them and bring safety to their life and property. This present vrata is not aimed against anybody. He is not agitating. Some years ago he had renounced his village home with the vow not to return home until the Tehri Dam project is fully reviewed by an impartial review committee consisting of scientists from different fields of knowledge connected with such a project. He is living as an “aniketa”.

I can explain the mystery in terms of three “D’s - Devotion, Dedication, and Determination. I have cultivated these qualities during the 56 years of my public life. As a boy of 13, I was initiated into Gandhi’s Swaraj movement by one of his young satyagrahis, Shri Dev Suman, who hailed from our princely state of Tehri-Garhwal. Suman was arrested and tried inside the prison, where he went on a fast unto death demanding civil liberties for the people. I was also arrested for leaking out his statement saying, “I shall lay down my life to protect the civil rights of the people.”

I was put in a police lock-up 70 kms away in Narendranagar. Suman, in the midst of such atrocities as being flogged with heavy fetters on his feet, died on the 84th day of his fast. I was still in the police lockup and was taken upon a stretcher to the hospital when they thought I would not survive. But Suman’s martyrdom strengthened my conviction and I felt as if he had taken upon himself this ordeal to give me a practical lesson in Satyagraha. My own first experiment in Satyagraha was in the last week of August 1947, when even after independence in erstwhile British India, my entry into Tehri town was banned. The army stopped me at the Bhagirathi Bridge and I undertook a fast in protest, which lasted seven days, till the ban was lifted. I was only 20, but this act filled me with confidence and strengthened my faith in non-violence. Earlier, for one full year, while I had been living in Lyallpur village as an absconder, I had practised living on only one meal a day. A long illness in 1962 shook my confidence in allopathy and I went for treatment to Panchli Khurd nature-cure centre in Meerut. Under Swami Jagdishwara Nand ji, the director of the centre, I undertook a 19-day fast to purify my body from the evil effects of antibiotics and other allopathic drugs. I was required to take a glass of

neem-water early in the morning, after that a 2-kilometre walk followed by mud pack, enema, hip-bath and full bath. Morning and evening community prayers and yogic asanas including neti and dhوتي (practices of cleaning nostrils and lungs) were an integral part of the treatment

My later fasts were in November 1971 for 16 days for prohibition and in October 1974 for 15 days for drawing attention towards mass destruction of pine forests due to excessive resin-tapping and illegal felling of trees by contractors. On both occasions we succeeded. But in January 1979, when I undertook a fast in Badiyargad forest to stop tree-felling in the sensitive catchment of Alaknanda and in the whole hilly region, our grass-thatched shelter was set on fire to drive me away, but I stayed on and managed to get shelter in a deserted cowshed.

On the 11th day the police arrested me on the charge of attempting to commit suicide and lodged me in Tehri jail. I made a statement before the Munsif Magistrate that being a practitioner of naturopathy; force-feeding or injections would mean my death. The District Magistrate pressurised the jail doctor to make a false report about my health, which the young man refused. Finally on the 20th day I was shifted to Dehradun jail, which we reached at midnight. The doctors of the Doon hospital surrounded me. They felt my pulse, checked the blood pressure and heartbeat; to their surprise everything was alright. They asked me the secret, and my simple reply was that they had no instrument to measure the inner strength, which I get from taking a few drops of Ganga jal, mixed with Jam jal from Mecca, from listening to devotional songs, prayers, and by observing silence. The government called Dr Hira Lal of A .I. Nature Cure Parishad to examine me and he reported that I could survive for 50 days. On the 24th day, when the U.P. government promised Shri Jai Prakash Naratn talks on the issue of tree-felling in hills, and stopped felling of trees in Malgaddi forest where we had launched the movement, I broke my fast in Dehra Dun jail.

My first fast in connection with the Tehri dam was undertaken on Christmas day in 1989, and continued for 11 days, and again for five days, when we stopped all construction work. A reign of terror was let loose by the officialdom. But then we were invited to Delhi for negotiations by the then Environment Minister Maneka Gandhi. We agreed to call off the movement in the hope that the government would take a decision on the basis of the Environment Ministry's Appraisal Committee consisting of scientists of different disciplines and chaired by the eminent soil-scientist Prof. D.R. Bhumbra. The committee unanimously recommended that the high dam project be replaced by a small run-of-the-river scheme, but that was not to be. The Russian roubles were rolling in, and as Shri T.N. Seshan has remarked, "The Tehri dam was a gold mine for contractors, engineers and politicians."

The Uttarkashi earthquake of 20th October 1991 confirmed scientists' apprehensions about the possibility of a future high-magnitude earthquake in the Tehri dam area. Prime Minister P.V. Narasimha Rao had himself remarked that scientists alone can decide the future of the project. But the vested interests had become strong enough to influence the government and make the local administration a tool in their hands. We occupied the dam site and stalled work for 75 days. On February 27th at midnight our camp was raided by the police and we were put in prison. Now there was no way left for us to press our demand. I and two of my fellow workers - my wife Vimla, and Diksha Bisht - started an

indefinite fast the same day. After 3 or 4 days we were shifted to Meerut Medical College. We continued the fast. On the 10th we were released and brought back to Tehri. We pitched our tents on the road leading to the dam site. Swami Chidanandji advised my colleagues to break their fast, so that they could look after me. I added honey and lemon to my intake of water. Our camp was on a dusty road, where monstrous bulldozers, earthmovers, and heavy trucks were deliberately made to run around to torture us with noise and dust. P.A.C. was posted around our camp. I can never forget the words and deeds of the PAC jawans, who would hit me in my bed with their gun butts saying, "Here is the dacoit, sleeping like a respectable man."

My fast was discussed in the Parliament. George Fernandes came with a message from the speaker of the Lok Sabha that I should break the fast and the matter will be looked into. But the people continued demonstrating and were bent upon stalling the work. A conspiracy was then engineered, in the shape of an accident of a bus carrying anti-dam agitators. Sixteen people died and more than four dozen others were injured. The order to stop work and an assurance to review the project reached me on 12th April 1992 - the 45th day of my fast.

Prime Minister Narasimha Rao promised to give us an opportunity to voice our grievances; I handed over a memorandum to him on May 7th 1992. But he never responded to our reminders. To our surprise, on March 15th 1994, the cabinet cleared the controversial project and a little known company owned by the politicians of Andhra Pradesh was in Tehri by October '94 to start the construction of the coffer dam. The company had nothing except political backing, and to strengthen it the work was taken on by another company, owned by the family of a Member of Parliament from Andhra Pradesh, with 40 trucks which had been lying idle since the cancellation earlier on of its mining contract. We again blocked the road leading to the dam-site and stopped the movement of vehicles till, on the 26th day, the 9th of May, 1995, we were arrested and lodged in Saharanpur jail.

Since all peaceful methods of protest were denied us, I declared an indefinite fast inside the jail. On a hot May Day, with a heat wave prevailing all around, I was put in a car and taken to Sanjay Gandhi Institute of Medical Sciences after a hazardous 450 km journey. I was later released upon the intervention of the Allahabad High Court. I returned back to Tehri and continued my fast at Ganga Himalaya Kuti. The movement was now gaining ground. Workers from different parts of the country joined us. But on the morning of June 9th, at 3a.m. our camp was surrounded by a 200-strong contingent of policemen. I was dragged out while dressed only in my underwear and put into an ambulance. Two policemen were tightly holding my hands and feet. A doctor was sitting in the front seat. I cried out for water, but they would not stop the vehicle. When the vehicle had crossed Narendranagar, about 70 kms from Tehri, I cried out at the top of my voice. They stopped the vehicle. I wanted to urinate but could not and practically fainted. To my surprise when I opened my eyes my son Rajiv and advocate Sudhanshu Dhulia of Allahabad High Court, who had been following us were standing by my side. The ambulance finally stopped at the Jolly Grant air-strip in Dehradun. It was Nirjala Ekadasi day, when I was not to take water. It was too hot; I tried to cool my hands and body with water from a pipe but that too was hot.

I was taken in a helicopter to the All India Institute of Medical Sciences, New Delhi and put in the casualty ward. The doctors came and asked me about my ailment. I said, "I do not know; ask the Magistrate, the police officers and the doctor who brought me here almost naked." Leaving me under the custody of Delhi Police, these fellows evaporated away. There was nobody to tell as to why I was there. The officers of the Government of India and U.P. Bhavan persuaded me to shift to the private ward, which I was not prepared to do until I had been told why I was brought there.

The Uttar Pradesh P.U.C.L. had meanwhile filed a habeas corpus petition in Allahabad High Court. The High Court ordered that I be presented before the court on June 13th. It was only then that I agreed to shift to the private ward for a day. However, I did not allow doctors to touch me. It was on the 36th day of my fast that I was presented before Justices Girdhar Malaviya and G.P. Mathur's vacation bench in Allahabad High Court. The U.P. government pleaded that I was taken to Delhi to save my life as the medical reports by Tehri doctors about my health were alarming. The court immediately arranged my medical examination in the next room and passed the following order:

Dr N.P. Singh, Officiating Chief Medical Officer, Allahabad has presented the report of Shri Sunder Lal Bahuguna signed by himself as also by Dr U.C. Goel and Dr Sunil Verma together with urine examination by Dr D. Malaviya. These reports are placed on record. Dr N.P. Singh was also asked to explain the report to the court. He stated that the general condition of Shri Sunder Lal Bahuguna is fair. His pulse, blood pressure and temperature are normal; respiratory system is also functioning normally. Urine report is also within the normal limits. According to Dr N.P. Singh the opinion of the Board is that the patient is normal.

At this stage Court put the following question to Dr N. P. Singh:-

*Question: - if there is a person who may require force feeding, is it necessary to take that person to a medical institute with all modern facilities?*

*Answer: - Under the above circumstances the feeding is possible under medical supervision at any place including normal place of residence of the person concerned.*

In view of the medical report as also in view of the stand taken in the counter affidavit that Shri Sunder Lal Bahuguna is not under detention and is free, we direct the respondents to take back Shri Sunder Lal Bahuguna to Tehri. Since as per counter affidavit Shri Sunder Lal Bahuguna was produced before us after bringing him to Allahabad in an airconditioned compartment of train and was earlier taken to Delhi by State plane from Jolly Grant Airport, Dehradun, we direct the state government that he shall be taken back to<sup>1</sup>, Tehri in the same manner. He and his companions shall be provided 1st class A.C. accommodation in Prayag Raj Express from Allahabad to Delhi and shall be flown to Jolly Grant Airport, Dehradun, and tomorrow by the State plane and shall be put in comfortable car to reach Tehri without any delay.

Thus I was able to get back to Tehri, on the banks of the sacred Bhagirathi, to continue my prayerful fast. The local administration avenged the High Court decision by severely beating up several activists, including Dr B.D. Sharma, Ex Commissioner for Scheduled Castes and Scheduled Tribes and Prof. Banwarilal Sharma of Azadi Bachao Andolan. Ultimately, on the 49th day of my fast, on June 27th, 1995, Shri Motilal Vohra, U.P.

Governor came with a message of assurance from the Prime Minister Narasimha Rao to review all aspects of the project. My fast was therefore concluded.

For about a year we were waiting to see the fulfilment of the promise, but this was never done. I felt guilty of being a party to this lie. I wrote a long letter to the P.M. on March 19th, waited for two weeks for his reply and handed a copy to Shri Motilal Vohra on April 2nd, but as usual there was no response. I had expressed my decision to undertake a repentance vrata, which I started on April 13th, the auspicious Vaisakhi day, with the advice and guidance of Vedantic Saint Swami Chidanandaji. Since this was not a fast like the previous ones, I had in a statement clarified that I would be taking bael and honey, both tree products, and observing silence during the fast.

Dr Chandra Shekhar Sharma of Parmarth Nature Cure Centre prescribed the following schedule for me; this I followed, besides two hours of morning prayers and silence for 23 hours. I used to sit for 4 hours everyday, gazing at the river in quiet meditation. The open sky and the music of a living river infused me with energy.

Morning — Lemon and honey

9 a.m. — Lemon and honey

11 a.m. — Bael

3 p.m. — Lemon and honey

5-6 p.m. — Bael

Before going to bed—Lemon and honey

Treatment:

Forenoon — Hot fomentation of abdomen 10 minutes

Mud pack 15 minutes

— Enema with cold water

— Cold hip bath

— Massage

— Cold bath in the river

4 p.m. — Mud pack 30 minutes

6 p.m. — Cold hip bath

— Cold pack on the abdomen for 1.5 hours

While going to bed

This schedule kept me fit. To begin with I was taking about 300 grams of bael and honey, but in the end this came down to less than 50 grams. The system did not allow more than that and I kept vomiting.

During my vrata I kept myself busy replying to letters, writing articles and keeping a diary. This, however, became increasingly difficult as the vrata progressed.

On June 23rd, the 70th day of my vrata, my B.P. was 120/ 80 and pulse 66. I had lost 8 kilograms, my weight having gone down from 49 kg to 41 kg. Though during the 1995 fast, my weight had gone down by 11 kgs in 49 days, this was mainly due to the torture I had to undergo upon removal from the banks of the Bhagirathi, following my 'abduction'. On the 73rd day of my vrata, this time, I travelled 120 kms from Tehri to Haridwar by ambulance and from Haridwar to Delhi by train. I was even able to climb the stairs at Delhi Railway station.

Thus I got strength from devotion, which I inherited from my parents - both my parents used to undertake fasts on Ekadasi day and take a holy dip in the Bhagirathi - determination from Shri Dev Suman, and dedication from Mira Behn and Sarla Behn - the two British disciples of Gandhiji - and from Thakkar Bapa and Acharya Vinoba Bhave, who are no more. I continue to gain inspiration and strength from the two living great souls - H.H. The Dalai Lama and Swami Chidanandji. They continue to shower their blessings upon me for the success of my mission to save the Himalayas.

The life of modern man has become so artificial that he feels it is impossible to undergo ordeals like fasts and vratas. But I feel these are the truly satvik (righteous) methods to solve the complex problems which our society is facing. These were developed in India, where our ancestors made valuable researches in the science of the inner self (atma gyan). India has this science to offer to the entire humankind, but only if we continue to enrich this unique heritage by carrying on our own little experiments.

### Priorities of IX Plan - A Grassroot View

#### Water

Water is going to be the most crucial problem in the coming years. According to a World Watch study, the availability of water in 2001 will be 24% less as compared to 1983 in India. This is partly on account of increase in population but mostly due to the depletion of water resources. The consumption of water has already tripled during the last 50 years. The main cause is more consumption of water by agriculture, cities and industries. Since we have decided to provide every village with clean drinking water the first priority should be the drinking water and safe drinking water to the people living in inaccessible areas.

Himalayas and the hilly areas of the country are the sources of rivers. In Himalayas, glaciers and the forest are the permanent storehouses of water. The glaciers are receding partly due to rise in temperature and partly due to human interference. The Gangotri - origin of Ganga receded at the rate of 7.31 metres a year during the last century, 18 metres a year up to 1990 and 200 metres a year after 1990. A big portion of the glacier, about 4 km wide has already been separated from the main glacier. So my suggestion is a study of the conditions of the glaciers be initiated forthwith and suitable measures taken to protect the glaciers. One of the immediate measures should be to stop the human interference i.e. trekking and mountaineering, in these areas.

Forests are the mothers of rivers, but the forests in the Himalayas and Western Ghats, Sahyadri and other hilly regions have fallen prey to the greed of the States to earn more revenue. Even the Finance Commission has insisted that Himachal Pradesh should earn at least Rs.100crores of rupees a year from the forest. In U.P. in spite of a ban on green

felling of the trees, felling of trees even in inaccessible areas in the upper catchment of Ganga and its tributaries is going on under the pretext of felling dry and dead trees. Green felling is being done by U.P. Forest Development Corporation. All fellings should be stopped forthwith and the hill catchments of the rivers should be managed as protection forests on the lines of the forest between Shimla and Kufri which were declared as protection forest by the Britishers long ago, for assuring supply of drinking water to Shimla.

The other aspect of deforestation is change in the forest cover under the garb of scientific management of forest which was in fact commercial management of forests. The natural mixed forests were converted into mono-culture tree stands. It is only a natural forest which has greater capacity to conserve more water. Some monoculture forests, especially Chir Pine and Eucalyptus are water suckers and these have an adverse effect on the water regime.

### Austerity

The immediate solution to the problem lies in austerity. All those activities which need more water, especially swimming pools in five star hotels, higher demand by the urban population, water intensive agriculture and industry should be curbed. A new model of latrines should be evolved. Similarly there is need to rethink over the export of agriculture and horticulture products which consume more water. Production of one kg of rice consumes 6000 litres of water. The water need of sugarcane is still higher. Should we produce these for home consumption only or for export also? Their export is indirectly the export of moisture to earn dollars.

### Alternatives

We should think over alternatives to the present systems of water management. Dams are a temporary solution to the permanent problem of water. In the process of evaporation at least 4 percent of water is evaporated from a dam reservoir. This decreases the total quantity of water. The recharging of underground water is stopped; in the down stream are when a river is dammed. Due to high rate of siltation, the life of Indian reservoirs is at least 50 per cent less than the assumed. In case of Himalayan reservoirs where the siltation rate is very high. It is even 75 per cent less as in the case of Kalagarh Dam over Ram Ganga in U.P. Dense permanent tree cover in the catchment areas of the rivers is the permanent dam and a policy for land use for perennial multipurpose trees should be adopted.

Collection of rain water where it falls is the other solution. Every house should have a small reservoir as is the tradition in the desert area of Rajasthan to collect rain water. It should be made obligatory for all the buildings including Government buildings to provide a rain water tank. The poor should be given liberal subsidy for this.

There is need to revive the age old tank system. Historical evidence shows that as long as the tank system survived the production was as high as after the green revolution. In tank system the recharging of underground water is assured.

In hilly areas where there is acute water scarcity and about 45 per cent of water sources dry up during the summer, the only alternative is to pump water from deep flowing glacial fed rivers. This should be provided in the Plan for all the hilly regions.

## Afforestation

Afforestation on a mass scale should be taken up in the denuded hilly areas. Afforestation of suitable species which provide food, fodder, fuel, and fibre, should be taken up. There should be fresh land-use capability survey of the hilly areas. Though the ownership of the land should vest with the State or the village Panchayat, it should be allotted to individuals with right to use the products of the trees. Trees giving food, especially edible seeds, nuts, oil seeds, honey, seasonal fruits, fodder and fibre should be encouraged so that the local people may get the benefit of annual produce and the country as a whole may get water from these areas.

There is need to rethink about the promotion of industries which consume and pollute large amounts of water.

## Forests

The value of forests for oxygen, as sinks of carbon dioxide, reservoirs of water, and factories of soil manufacture has now been well recognised. In spite of this the depletion of forests continues at an alarming rate. The following steps should be taken (i) all natural forests should be declared as protection forests and be managed for soil and water conservation; (ii) monoculture forests should be converted into mixed forests of multi-purpose trees. The indigenous species which were eliminated to propagate commercial mono-culture plantations should be regenerated. In plantation programmes, special emphasis should be laid on trees and bushes which attract birds, because birds are the best tree planters and protectors of the agriculture; (iii) community control over the forests should be re-established. The role of forest department should be of a technical advisor rather than that of managers of the forests.

## Agriculture

The degradation of land is taking place at an alarming rate due to soil erosion, desertification, salinisation and water logging. On the other hand the need for more food is increasing with the increase in population due to land degradation and decrease in per capita availability of land. It will be difficult to feed the growing population. Though we are surplus in food grains but with the transfer of agricultural land for non-agricultural purposes, we may become a deficit country like China. China exported 8 million tonnes of food grains 3 years back, but now is importing 16 million tonnes a year. This is mainly due to the transfer of agricultural land to non-agricultural purposes. There should be a firm policy decision that no crop land will be transferred to non-agricultural purposes.

A massive programme for the reclamation of degraded land should be launched. There is need to reassess irrigation by big canals which are responsible for salinity and water logging. All soils necessarily do not respond favourably to irrigation. The adverse effects of irrigation by the Tawa Bandh in M.P. and Sharda Sahayak Canal in U.P. are glaring examples of devastation caused by irrigation.

Gandhiji had suggested tree farming as early as 1926. He enumerated the advantages of tree farming: (i) it needs less labour; (ii) less water; (iii) attracts clouds. Now the latest scientific opinion is that we can get 5 to 10 times more produce from the same area of land as compared to cereals. Priorily in tree farming should be edible seeds to replace cereals, nuts whose nutrition value is very high (100 gms of walnut gives as much calories as 500 gms of meat), oilseed, honey and trees giving fruits with more vitamins



like gooseberries (Amla) and Bael. The leguminous trees besides giving edible seeds, improve the quality of soil by nitrogen fixation in their root system. Each agricultural university in the country should have one tree farming research institute for different ecological zones of the country so that tree farming to augment the food production and improve the degraded land may be adopted in future.

### Energy

Energy is one of the most crucial problems and most of our projects are lagging behind due to energy crisis. The immediate solution of the energy problem lies in economy in the use of electricity and oil. For this improvement in the appliances, as was done in Japan, should be given first priority. Converting bulbs to tubelights, according to a study conducted by TERI in 1987, would save 5000 MW of electricity at users point during peak hours. There is need to renovate the old power plants. In many cases annual generation has gone down as low as 20 per cent of the installed capacity. Our energy priorities should be as follows:

1. Human Energy: The bicycle is the best example of utilisation of human energy. One spends only 22 calories while pedalling 1 km but 62 calories while walking, 549 calories while travelling by train, 570 calories by bus and 1153 calories by car. Instead of giving too much importance to the production of cars, production of bicycles and provision for separate tracks for bicycles and cycle rickshaws will go a long way to popularise bicycles. It is being done in rich countries like Netherlands. India has only 10 per cent bicycles in use as compared to China. Hand and pedal machines for use in farms and home industries should be encouraged. It will, on the one hand, generate employment and on the other hand reduce centralisation, pollution and drudgery of work.

2. Animal Energy: It is a folly to import oil and export beef. We should rethink the policy of using draught animals instead of tractors and automobiles in the farm sector as a majority of the holdings in India are too small.

3. Bio: This will solve the problem of cleanliness and energy.

4. Solar: Solar energy is decentralised and will save the transmission and distribution loss which is common in the centralised energy distribution systems.

5. Wind.

6. Tidal.

7. Geothermal.

8. Hydel from run of the river.

Mini and micro hydel schemes which were very successful in China and even in Nepal should be encouraged in the hilly regions of the country. These should be owned and managed by the communities. The finances for these should come partly from the banks, state and union government. Some work can be done by Shram Dan (voluntary labour). It is a pity that water mills in the hills which used cost free energy have disappeared with the coming in of power chakkis encouraged by the Department of Industry by giving liberal subsidies. These should be revived, and improved.

We should follow the nature's law. Whatever is essential for survival should be procured from the surroundings. This is the basis of Gandhi's concept of Khadi and

Village Industries. We should rethink over the policy of centralised production of essential commodities of daily use like cloth, soap, shoes etc. The centralised production creates an army of unproductive people whose burden ultimately falls upon the poor consumers and upon nature. These are managers, bankers, brokers, advertisers and transporters. We are encouraging this system and with this we are encouraging poverty and pollution. Certain items of essential daily use should be kept out of the purview of centralised production. This will guard us against pollution, exploitation, and the expansion of cities, which creates a number of problems including slums.

### **Land's share in Industry**

The policy of liberalisation and *quick* industrialisation has created the problems of displacement of the poor people and their land, forests and water resources are being taken away in the name of 'national interest'. Already 15 million people who had been uprooted from their lands are homeless. Money cannot be the compensation for the land. Land is the source of their permanent employment and survival. People living on land once uprooted cannot be resettled properly even if liberal compensation is given to them. The basis of planning should be that there should be least disturbance of the people settled on land or living in the forests. Where it is essential, a model of sharing the benefits of industry should be evolved. At present the labour, the capital, the management, enterprise continue to get their share from the industry when established, but land in a way loses its value to the owner as soon as compensation is paid to him. The benefits should be equitably distributed among the five - land, labour, capital, management and enterprise. Can a system be evolved in which instead of cash compensation the owners of land are given a 20 per cent share in the establishment and assured annual income from it besides jobs.

So far as Hydel Projects are concerned, the existing formula of giving 12 per cent to the states should be revised. The states should get 20 per cent and out of this, 6 per cent should go to village Panchayat and 2 per cent each to Block and Zila Panchayats. These are mostly in the hilly region, where Panchayat Raj institutions have no sources of income. The villagers lose their resource. They will be interested in conserving the water sources.

(Paper presented to the Planning Commission on 15-11-96 in Socio-Economic Group Meeting).

## **THE VOICE OF THE BIRDS**

### ***A Tribute to Dr Salim Ali***

Dada Salim Ali was one of the great men which Asia produced in the end of last century, who spread the message of the eastern culture through his life time's devotional work. India's culture was born and nurtured in the woods (Aranya). Sages and saints - the great teachers of India - had their Ashrams in the woods. They developed a philosophy of life which was influenced by their surroundings. The main characteristics of this are:

1. There is life in all creation. Life, not only in human beings, but in birds, beasts, trees, plants and even in mountains and rivers.

2. All life should be respected. To give this a practical shape, birds, snakes, fish and other animals were associated with deities. A worshipful attitude towards all forms and observance of austerity.

Foreign domination in Asia undermined these values and established the supremacy of the materialistic society, which looked upon Nature as a commodity. This was responsible for the destruction of the natural world. Salim Ali gave voice to the innocent birds. Birds like other wildlife were killed to decorate the drawing rooms with their hides. The first white man, who started exploitation in Himalaya in the middle of last century was Fredric Wilson, who killed birds, especially monal - the hill pheasant - for its beautiful hide. These were sent and sold at Mussoorie. This became the symbol of prestige and prosperity. So the uphill task before Salim Aliji was to change the minds of the people. He used to eulogise the owl. Once I asked him, "Dada! Your love for the birds is so blind that you are an admirer of a nasty bird like the owl, whose sight people take as a bad omen." Dada immediately reacted, "Do you know, how useful the owl is to society? An owl feeds upon three rodents in a night. You have cats to control the rats in the house, but who controls those in the farms? The owl and the snakes. If you allow a pair of rodents to survive, they will produce 700 in a year and five rodents destroy the food of one person!"

Except for the Chipko movement, in remote Himalayan villages, environment was very little talked about. Dada, during his travels all over the country, had created a family of nature lovers, mostly bird-watchers. The Bombay Natural History Society became the rallying point for them and with the Silent Valley movement in which he played a leading role; protection of environment became a national issue. An appeal issued by him and some other prominent citizens on the eve of 1980 parliamentary election, compelled the political parties to include protection of environment in their agenda. Thus came into being the Ministry of Environment.

I was fortunate to receive his blessings and patronage for the Chipko movement at a time when we were branded as enemies of development, democracy and science. When I first met him in Bombay in June 1979, he embraced me and charged me with his devotion, dedication and determination. The last I met him was in Jamnalal Bajaj Foundation Award-giving ceremony in Delhi. He had come to Delhi the same day. Though he had not received an invitation for the function, but as soon as he knew that I was to receive the award he surprised everybody with his visit to the Award function in FICCI hall. I have come to greet you, he said embracing me. I was going to embrace him with the same warmth, but the lady accompanying him cautioned me, "Don't hurt his tender ribs". We had been camping in Nahin Barkot limestone mining area to save the few remaining trees by keeping the miners away, when we heard the news of his passing away. "The sweet and melodious bird will no more sing" said one of my colleagues. But for me, with Salim Ali's physical body passing away, his spirit is not dead. I recharge my batteries with this, when I remember him during my prayers.

He worked for his mission till the last moment. Education and Action, are the two messages which he has left behind. Education of self about the mysteries of Nature and our inner self is the prerequisite for social work. One who has known the truth cannot sit idle. He or she will have to raise a voice against the destruction of nature.

In a world where economics has become the religion, the market a place of worship, experts and technocrats the high priests, and the "dollar" the supreme god, the challenge before all of us is to revolt against these false values. The religion of economics has made man the butcher of nature, the biggest exploiter. We are at war with nature and if by chance, we win; all life over this planet will become extinct. So, the best way to pay homage to Rishis like Salim Ali is to stand up against the butchery of Nature. Some people destroy nature, because they are ignorant about its disastrous effects. They need to be educated. The process of education should be started from grassroots to the level of administrators and policy makers at the highest level. Unfortunately, most of the political leaders are under the spell of development, which brings short-term benefits, but is disastrous in the long run. We can see the effects of this especially in the field of agriculture. The food grain production increased 2.62 times during the last four decades, but the land has been degraded due to salinity, water-logging and soil erosion. The magic of chemical fertilisers, which have made our farms addicts, is over. More input of fertilisers brings only limited returns now. At one time it was 9 tons for one ton of fertiliser; now it is only 2.

With the introduction of trawlers, though the production of fish increased for some time, but it has affected the fish catch on the shallow sea coasts. The fishermen launched a strong protest movement against the encroachment on their fishing rights. The policy of liberalisation has posed a danger to the resources of water, forest and land. New industries to meet the demands of the affluent especially in rich countries, are taking away these resources on which the poor survived. The prawn fish industry in the coastal areas of Tanjore has uprooted the poor peasants, and the paddy producing land which provided them both employment and food is being used to produce fish for export. In other parts of the country vast areas of fertile land are being taken away by industries. Similar is the case with water resources, which are being exploited for export products. The Du-pont factory in Tamil Nadu will be a drain on the water resources of this region. When such projects are opposed, the environmental activists are accused as enemies of development. I feel environmental problems in the real sense are the problems of survival. Everybody should be made conscious about these and mass movements for a really sustainable development should be launched. The basic principles of such movements shall be:

First priority to be given to the utilisation of natural resources of water, forest and land, should be for self-sufficiency in the basic needs of the region. Today there is a conflict between the national interests and local aspirations. This conflict can be resolved, if regional planning involving local communities is done. We in the Himalaya are engaged in just such an exercise. The Nation needs water from the Himalaya. High dams are planned to utilise the water resources. But these dams displace people, disturb the local ecology and economy and due to a high rate of siltation will be short-lived. We have suggested run-of-the-river projects for power generation, plantation of trees on all the barren slopes; not timber trees, but multipurpose food, fodder, fuel, fertiliser and fibre trees, which will provide employment to the local people and conserve water for the nation. Dense tree cover in the hill-catchments of the rivers are the permanent dams. There is still more urgent need for such planning in the western and eastern ghats, where rivers emerge from the forests. If this is not done immediately, there will be no end to the disputes over river-waters.

Water has become the most crucial problem of humankind. Poor countries of Africa and Asia, with dense populations, will be the worst affected. We should go into the roots of water scarcity. Population increase is, of course, one of its causes, but the main causes are less availability of water due to deforestation and over consumption by cities, industries and agriculture. Poor countries are exporting this valuable gift of nature to affluent countries in order to earn dollars. The immediate step to be taken is AUSTERITY in the use of water. We have to also think about ALTERNATIVES. Every house should have a rain-water collection tank. We should revive the age old tested system of tanks. Tanks have now disappeared, in rural areas planted with eucalyptus and in urban areas like Coimbatore to raise buildings. Historical records show that the paddy production in Chingalpet in the last century was as high as it is today on account of the green revolution because Chingalpet had a well knit tank irrigation system. The silt was sent back to the fields. Today it flows into the sea.

If our dying planet is to survive, we have to get rid of the development which has been equated with economic growth. It has made man the butcher of Nature and created the triple problems of (a) insecurity, (b) pollution and (c) poverty. We have gone from Nature (prakriti) to Degeneration (vikriti), whose symbols are the above three.

You will ask what is the way out? And here Asia has an important role to play. We produced a great social activist 2,500 years ago. He was a prince turned into a social revolutionary - Gautam Buddha. He declared Trishna (Desire) to be the root cause of misery (Dukkha). To end misery, we have to end desire (Trishna Kchhayya). He differentiated between need and desire. We should fulfill our needs from nature, but should not run after the desires. The same was pronounced by Gandhi in our times, when he said, "Nature has enough to sustain all, but nothing to satisfy the desire of anybody."

Friends! This is the message of Asia, for which Salim Ali worked, life-long and has left a legacy of devotion, dedication, and determination behind. We are very few, but we are a creative minority - a creative minority, which as the great world historian Arnold Toynbee said, brought changes during the course of history. Three types of people humanitarian scientists, social activists and compassionate literary men, artists and journalists should join together to bring in the new revolution, which will take our society from Nature (Prakriti) to Culture (Sanskriti). This is the message of our culture, according to which, to accomplish a noble work (Yagyan) a combination of knowledge (Gyan), action (karma), and devotion (bhakti) is essential. Salim Ali lived with us, to convince us about the need of this. He silently worked, silently passed away. When all stop to listen, your silence is more vocal. Let us listen to him and act without delay.

(Dr Salim Ali Centenary Celebrations, Coimbatore, 16-11-96)

### Development and Environment

The 20th century, especially the four and half decades since 1950 may rightly be called the era of development, because during this period, the world economy has "expanded from \$ 4 trillion in output in 1950 to more than \$20 trillion in 1995. In just the 10 years from 1985 to 1995 it grew by \$ 4 trillion more than from the beginning of civilisation until 1950". In China alone the economy has expanded by 57 per cent. Development became synonymous with economic growth, when U.S. President Harry

Truman in his inaugural speech to the U.S. Congress on January 20, 1949, identified the larger part of the world as “underdeveloped areas”, and the road to development came to be clearly defined. Greater production is the key to prosperity and peace”. Even before this there was unprecedented economic growth in the industrialised west due to industrialisation. The exploitation of colonies and the extension of trade empires played an important role in this. The evil effects of industrialisation and deforestation for agricultural extension are now apparent. Oxygen, essential for breathing, has become polluted. Carbon-dioxide and other foul gases have spread in the atmosphere. This has caused acid rains. Forests have been disappearing and the lakes have become dead. Water from rivers is not even fit to bathe in, not to speak of drinking it. The sight of an open and clean sky has become a dream. There was no technical solution to these problems. Thus the voice to protect the environment was raised. Consequently the United Nations organised the first Conference on Environment in Stockholm in June 1972. Prior to this conference, a big tree was threatened to be felled in order to make way for the underground railway in Stockholm. Thousands of citizens including ex-army commanders came out onto the streets to oppose this. They thus challenged ‘development’.

As a matter of fact, pollution is born of development with economic growth. The procession of development brings with it dust, smoke and noise. It was very well depicted in a cartoon published in the UNESCO Courier: A pygmy was running with a big tree under his arm. Somebody stopped him and asked, “Where are you going with this tree?” He replied, “To find some safe place for this tree”. The next question was, “What is the danger to it?” and the reply was, “Don’t you see the cement road is following me.”

The development pattern of the West has now become universal. When it was adopted by the poor countries with dense populations, the problems of air pollution of the industrialised countries became visible there in more acute form. The depletion of their natural resources of water, forests and land started fast. The extension of cities is connected with industrialisation. The size of old cities has gone up many times and new cities are growing up. China is a glaring example of this; it has a target to double the number of cities by planning 600 new cities. The energy and transport needs of the densely populated cities are responsible for combustion of fossil fuels (coal, oil and gas). This becomes the main reason for air-pollution. We throw 56 grams of carbon into the atmosphere when we use one kilowatt of thermal power. The chimneys of industrial establishments directly emit smoke. Automobiles present both smoke and noise. While all the pollution is being concentrated in the cities. Trees - the sinks of carbon-dioxide, which absorb poison like Lord Shiva - are disappearing.

The other aspect of environmental pollution is the depletion of resources at an alarming rate. There has been a miraculous rise in the food grain production between 1950 and 1990. It almost trebled - from 631 million tonnes in 1950 to 1780 million tonnes in 1990. The production of meat went up 2.6 times and that of fish five times (from 22 million tonnes to 100 million tonnes). But now this illusion is over. This was the profit shown by eating up the capital. The rise in food grain production was mainly due to the extension of crop area and irrigation, extensive use of chemical fertilisers and hybrid seeds. Mining of water was done to such an extent that its level is lowering fast. Canal irrigation has brought the salts on the surface and the water-logged area has increased. In

India 34 per cent of irrigated land is the victim of salinity and water logging. 2 million hectares of saline land has already gone out of production. Besides this, soil erosion is eating up the fertility of the soil. In the former USSR, 99 million hectares of land badly affected by erosion had to be abandoned. In USA, 14 million hectares of land was returned to tree farming and fodder growth. The magic of chemical fertilisers, whose use had gone up nine times between 1950 and 1984, is now over, because it is now giving diminishing returns.

Whatever is happening with the cropland, a greater injustice than even that is being done to the forests? Centuries old natural forests, especially the virgin forests of Africa, Asia and Brazil, are disappearing fast. These are being replaced with fast growing species like eucalyptus and pines, which are detrimental to the health of the soil. A forest is a community of living things, of which the tree is the greatest. But as in a community, in a natural forest there are young and old trees of various species, climbers, grasses, bushes, herbs, tubers, animals and birds and insects - all the various members of this family. This community of forests was destroyed in the name of scientific forestry, which as a matter of fact is commercial forestry. It has converted forests into timber mines. Many species have become extinct. The loss of bio-diversity is an irreparable loss to the whole planet. Tropical forests are rich with a number of species in a small space. Many of these are the very basis of the lives of forest dwellers. These forest dwellers have been forced into the market economy of competition and exploitation from the subsistence economy of forests, where they had been living in perfect harmony with Nature. Some of these tribes are on the verge of extinction. Food production has been directly affected by deforestation, because forests are the mothers of rivers and the factories of soil manufacture. The capacity of the forests to retain rain-water and maintain the flow of the rivers throughout the year is diminishing. We have been trapped in a vicious circle of floods and drought. To solve these problems mega dams were built over rivers. The number of big dams of more than 15 metres height all over the world was 5000 in 1950, but now it is over 38,000. Since dams were regarded as the only solution to the problems of drinking water and irrigation, the poorer countries not only spent their hard earned money in dam construction, but also took loans from rich countries for these projects. After flooding the fertile valleys, forests and habitats, and displacing millions, these so-called temples of prosperity have proved to be tombs of death. The dams have been short-lived due to heavy siltation; they have brought prosperity to the rich by uprooting the poor. These dams will stand as monuments to 20th century stupidity. Dams are a temporary solution to the permanent problems of energy and water. They lead to a deterioration in the quality of living water and give birth to a number of water-borne diseases. The dense vegetation cover in river catchments and especially the natural vegetation cover are natural and permanent dams.

One of the main causes of deforestation has been mining. The forests of Goa, M.P., Rajasthan, Bihar and Orissa have been destroyed by the mining of metals and minerals. The sites of bauxite, iron, copper and limestone mines in these areas were once covered with dense forests. Modern civilisation depends upon an ever increasing use of metals and minerals. The luxuries of the affluent classes demand more and more of these. These 20 per cent people consume 86 per cent of aluminium, 81 percent of steel and 75 per cent of cement and paper. Thus material civilisation gives top priority to the use of minerals and metals. It has buried the eternal truth that trees are more precious than stones,

pronounced by the Supreme Court of India in its historical judgment on the Dehradun limestone quarries.

The forests of South America and Africa were converted into ranches to produce meat. Meat is the main component of the diet of the rich. The poor are compelled to rear sheep and goats for their survival when their living resources are taken away from them.

Whereas the importance of forests to the forest dwellers is for their survival, the affluent class advocates forest conservation for oxygen banks, sinks of carbon-dioxide and parks for recreation. This view has given birth to a conflict between the forests and the people.

The third invasion of materialistic civilisation has been on water. The demand for food grains and water has tripled in the last half of this century. Previously the main use of water was for agriculture and domestic requirements, but now the demand of agriculture has increased manifold. With the expansion of cities the area under water-intensive cash crops - sugar cane, tobacco, cotton and vegetables is increasing. The green revolution is mainly based on hybrid seeds and chemical fertilisers, whose water needs are very high. In order to meet these needs, ground water is being drawn on a big scale. In Ludhiana district of Punjab - the haven of the Green Revolution - the water table in tube wells is going down at the rate of 0.80 metres a year.

In Maharashtra sugarcane has drained all the groundwater. This is a global phenomenon. Col. Gadaffi of Libya dug deeper than the level of oil and pumped out water to flow artificial rivers in the desert. But these rivers will dry up in fifty years, earlier than the oil wells.

Domestic use of water goes up along with urbanisation. The urban dweller uses ten times more water than an ordinary villager. The affluent use 100 times and five-star hotels up to 250 times per capita. The 260.5 metre high Tehri dam over the Bhagirathi River in the Himalayas is being justified as essential for supplying more water to Delhi. Average per capita availability of water in Delhi is already 246 litres. But 'average' is often a misleading term. The average per capita water consumption in Ministers' bungalows is 550 litres and in five-star hotels it is 1000 to 1500 litres, whereas slum-dwellers hardly get five litres and that too is dirty water. The cities drink more water and pollute it too. Not a single river in India flows with pure water worth drinking. Ganga, which is regarded as the most sacred river and whose water is famous for miraculous qualities has turned into a dirty nullah. Yamuna too has become absolutely dirty.

Industries are responsible for killing the rivers. Industrial effluents all flow down to the rivers. Some years ago the Ganga caught fire in Barauni, due to the spills of oil in it. All the effluents of leather factories in Kanpur flow into the Ganga. I have seen the effluents of a rayon factory flowing into the Chariyar river of Kerala. Not only the rivers, but the groundwater has also been polluted by chemical industries, distilleries, dye factories etc. Inorganic agriculture, which necessarily uses chemical fertilisers and pesticides, contributes to this form of pollution.

The 21st century is beginning with struggles over water. These struggles are between states within India, but international rivers like Nile, Mekong and Ganga have become the subject of strife between nations on the issue of sharing their waters. In the beginning of the new century, per capita availability of water will be 24 per cent less as compared to



today. The shortage will be greater in densely populated countries of Asia and Africa. The shortage of water will adversely affect food – food grains and fish - production. The poor will get less water, because the damming of the rivers will end the socialistic form of the rivers. In the centralised system of water management, when water becomes a commodity, those who can pay more get more. This process has already started in China, where the army was deployed to prevent the farmers from drawing water. The struggle for water will not be limited to the nations and the states, but will take place also between agriculture and industry, village and city, and finally between the rich and the poor. It will decide the destinies of politicians and governments, because the solution of the problem will become a test of their ability.

The Earth is a victim of the onslaughts of the materialistic civilisation; the oceans too have been invaded. The oceans have become the dumping grounds of pollution and even of radio-active nuclear waste. Sewage from cities freely flows into the sea. Sea coasts have become the spots for luxury tourism. As a result of this, competition to usurp these is going on. Mangroves have been cut down to build hotels. The crisis of oceans will directly affect the poor, because the fish catch will be lessened. 90 per cent catch is from the coastal seas. The contribution of sea food to the diet of African people is 21.1 per cent, Latin Americans 8.2, North East 7.8, Far East 27.8 and in Asia 21.7. Dams have had a disastrous effect on seas and freshwater lakes. The fish which survived on the coasts in the mixture of sea and fresh water have become extinct. Not even a little fresh water from rivers like Colorado and Huang He reaches the ocean. Amu Darya and Syr Darya, which emerge from the Hindukush carried 55 billion cubic metres of fresh water into the sea. Between 1981 and 1990 only 7 billion cubic metres, only 6 per cent of the total flow went into the sea. The annual fish catch in it was 44 thousand tonnes and 66 thousand people got employment. Now the sea coast has receded 40 kilometres away.

The major problem humankind is facing today is the depletion of three renewable resources - water, forests, and the land. None of these problems can be solved in isolation. There are two other intricate problems connected with this, which are the gifts of development. The first is that of security. What a fallacy! The nations sitting over the citadels of development possess an armoury of 42 thousand nuclear weapons. They are not prepared to destroy these. They inspire the poor countries by selling weapons to them to fight against their neighbours. They want to remain superpowers to keep their indirect control over raw materials, especially minerals, metal deposits and forests and to ensure markets for their trade.

The other aspect of insecurity is internal insecurity. The fallacy is that the people's representatives in a democracy have to maintain a super-security system for their own security in their own countries. Economic disparities and the aspiration to become more prosperous has given birth to terrorism. Governments are increasing poverty by spending hard-earned money of the poor on an unproductive activity like security.

The second problem is that of hunger and poverty. Now famine has taken the form of malnutrition. Production is decreasing due to ecological disasters - loss in soil fertility, water shortage and pollution. In 1981 the area under cropland had touched the maximum of 732 million hectares. In 1996 it came down to 695 million hectares. Per capita availability of food grains which was 346 kg per annum in 1984 had come down to 314 kg in 1994. An American consumed 800 kg while an Indian consumed 200 kg. With

economic prosperity the consumption of meat, fish, eggs, milk products and fruits and vegetables other than food grains increases, resulting in even less food for the poor. The poor - one third of the total population of India, do not even get enough calories, not to speak of a nutritious diet. The diet of the poor, having been through the food processing industry-potato chips, corn flakes, ragi malt - reaches the tables of the rich. The poor meanwhile have to satisfy themselves with an even less nutritive diet.

Development with economic growth widens the gulf between the rich and the poor. At the end of the first decade of development in 1960, the ratio between the income of 20 per cent of the poorest and 20 per cent of the richest was 1:30, but after three decades in 1991 it became 1:61. But this is the ratio between the poor and rich countries; so far as individuals are concerned, it is 1:50.

### **The Birth of a New God**

Why didn't all the disturbances that are taking place today not take place in the past, and why are they happening now in the era of 'development'? is it not due to the conspiracy by the enemies of development to dwarf the benefits of development. The answer to this question is hidden in the regulatory forces of society. During the long course of history, religion played a vital role in regulating society. In order to ensure its implementation, observance of this code was regarded as pious, while violation of it as something sinful. But gradually the real face of religion (Dharma) disappeared and it came to be covered with rituals. The Industrial Revolution in Europe led to two basic changes in human thinking:

1. Nature is a commodity, and
2. Nature is for human beings, because society consists only of human beings. This became the basis of development with economic growth. When the objective of development became affluence and prosperity, man became the butcher of Nature. He misused the power of science and technology for maximum exploitation of the resources of the planet. We became the rich children of a poor mother.

A new religion has taken birth in the development era. This is the religion of economic growth. The market is its temple, technocrats and experts its priests, and 'Dollar' is the new God. Our political leaders are impatient to possess this God. They are prepared to make the highest sacrifice to bring it home to their respective countries.

Practically all the poor countries are exporting the three basic resources - water, forests and land - in order to earn the dollar. India is exporting Basmati rice, sugar, tobacco, vegetables and fruits. Along with a tonne of food grains, 1000 tonnes of water is exported. Similarly 3000 litres of water are needed to produce one kilo of meat. The export of food grains and other such commodities, which need more water, will impoverish this country. Our land use is decided by importing countries. The cause of famine and malnutrition in many countries has been the use of the best land to grow cash crops for export.

The three problems of insecurity, pollution and poverty can not be solved in isolation. These are all connected with the prevalent concept of development. Those who equate development with affluence forget that there should be two basic characteristics of development:

1. It should be sustained. At least the same benefits that we are getting, if not more, should be assured to future generations.

2. It should be ethical. Whatever benefits a person or a species gets should not harm other individuals or species.

We have seen that due to the exploitative production system, not only are the deposits of non-renewable resources being depleted fast, but the renewable resources of water, forests and land are also on the decline due to over-exploitation. We are eating the capital, which cannot be recreated. Glaciers, the permanent storehouses of water are receding at an alarming pace. The rate of recession of Gangotri glacier during the last century was 7.331 metres a year; during the recent years it has gone up to 200 metres a year. Forests, which are the mothers of rivers, are disappearing.

The ground water level is failing. Erosion, salinity, water logging, the expansion of deserts, and the degradation of land everywhere is visible. Thus this existing pace of development cannot continue and this is not sustainable development.

Only 20 per cent of the people of the world enjoy a luxurious lifestyle due to this development whereas the same number of people have no proper habitats, nutritional food is a far off dream for them, and they have no access even to safe drinking water. This is all about human beings, for whose development there is so much hue and cry. Many species of flora and fauna are becoming extinct fast. 40 per cent of terrestrial resources of the planet are being used by only one species - the homo sapiens. Since there is interdependence between all forms of life, so even human beings will not be spared the adverse effects of the extinction of species.

Under these circumstances, it is imperative to redefine development or present a clear picture of real development. More and more availability of consumer goods and means of comfort and luxury cannot be regarded as development. This ignores the development of human qualities and subjects like permanent peace and happiness. The most agreeable definition of development was given 2,500 years ago by Gautam Buddha - a social revolutionary. His laboratory was in the midst of the miserable lives of the common people. He had experienced all those miseries, which the common people were subjected to. He found that the basic cause of 'misery' was desire (trishna). Elimination of desire (trishna kchayya) was the way to end misery. The fulfilment of our needs can be with getting sustenance from Nature, but the entire wealth of Nature is not enough to satisfy the greed of even one person. Development is a state in which the individual and the society enjoy permanent peace, happiness and fulfilment. In a society which regards affluence as development, people take pills to enjoy peace and drugs to enjoy happiness. The definition of Buddha stands the test of economics as E.F. Schumacher has proved.

The demons of war and pollution will die in such a society. Human relationship with Nature will be that of a child with a mother. Man will sublimate Nature with the help of science and technology to survive. This will pave the way to culture.

What will be the practical steps in this direction?

1. Respect for Austerity and Restraint - Contrary to existing values, taking less and less from Nature will be regarded as honourable. The Indian culture revered the hermit with a loin cloth more than a crowned king sitting over a throne. Though the protagonists of modern development have started accepting the importance of austerity and restraint in

a low voice, and Mrs Bro Brunt land, author of Our Common Future has admitted that pollution cannot be eliminated till the rich nations adopt austerity. But they are not adopting it. Contrary to [his, in order to expand their trade, they are propagating consumerism with great enthusiasm. The elite of the poor countries have joined hands with them. So more consumption has become the status symbol. Gandhi had given a new prestige to austerity by himself practicing it. His colleagues, especially Shri Gop Bandhu Chaudhury, Rama Devi, Nab Babu and Smt. Malti Devi have been living symbols of austerity. They had foreseen the need of a New Era.

2. Alternatives - Modern life has become so complex that we cannot live without many of the things which have become an integral part of our lives, but production of these creates pollution and destroys Nature. Among these resources used (to generate energy, fossil fuels (coal, mineral oil, and gas etc.), nuclear energy, and big dams are on the top. This system of energy generation was born in countries with smaller populations and with vast colonies for the expansion of their trade, but the same system would be suicidal for poor countries with dense populations. The alternatives that are pollution free and appropriate to the social and economic environment of these countries, in order of priority are: Human, Animal, Bio, Solar, Wind, Tidal, Geo-thermal, and Hydel from run-of-the-river and water-falls. The best symbol of human energy is the bicycle. Only 22 calories are used in pedalling one kilometre, while it is 62 in walking, 549 in travelling by train, 570 by bus and 1,153 by car. By encouraging machines using human energy, the problem of unemployment will be solved and the country could be saved from the trap of foreign loans.

Energy is directly related to the production systems. High energy is needed by big centralised industries. The centralised system of production is responsible for exploitation and pollution. These essentially raise a class of unproductive people. They are: managers, bankers, brokers, advertisers and transporters. Nature has to bear the burden of these middlemen. The Khadi and Village Industries and other decentralised industries keep us close to Nature. These keep us free from the physical torture and mental tensions created by the complex industrial civilisation. It is based upon the natural law that whatever is essential for survival should be easily available in the neighbourhood. Science and technology should be directed towards this. This will be the technology to heal up the wounded earth and maintain her health.

3. Afforestation-Industries have converted the green earth into brown. Greenery has been replaced by cement roads and buildings, clean life-giving oxygen with killer poisonous gas and the place of the rivers and streams, the very arteries of the earth, has been taken by dirty and polluted nullahs. There is a relative increase in the number of hospitals and medicines with the decrease in green cover. In spite of all the comforts, new diseases are taking birth, due to the disappearance of greenery. Edward Goldsmith, editor of The Ecologist, has made a moving appeal to take a turn from brown to the green in order to save our dying planet. The oxygen shortage has made it essential. According to the research of Russian Scientists, we need sixteen times more oxygen than our forefathers, who lived in a biosphere. We live in a technosphere. It takes 15 times more oxygen to absorb the pollution produced by technology.

Gandhi with his wisdom and foresight had seen the importance of the tree seventy years ago. His associate Kaka Kalelkar asked him, "What will be the future of

agriculture?" Those were the days of the expansion of collective farming in newly born Soviet Union. Gandhi was not an imitator, he was an original thinker. He instantly replied, "tree-farming". Enumerating the benefits of tree farming, he said, "it requires less labour, and less water," Trees attract clouds and bring rain. He looked towards every problem with an ethical angle.

He further said that those who will live upon the tree products shall be nearer to non-violence. It is clear that those who take meat, the tiger's diet, their behaviour will be violent like a tiger. We do some violence to the land in the process of the production of food grains. Switching over from cereals to tree products will also save energy used in cooking. There will be less diseases, because most of the diseases are cooked in our kitchens.

The basis behind Gandhi's thinking is scientific. Smith, an American scientist wrote in detail about tree-farming in the twenties. During the same period Kagawa - known as Kagawa Gandhi in Japan for his devotional social work - started tree farming to save the impoverished hilly region of Japan from erosion. Sonamullah Banihati of Kashmir is carrying on successful tree-farming experiments to protect the hilly slopes from devastating soil erosion. M. Fuokoka, the father of Natural Farming, has given special importance to tree farming.

Humankind is facing the problem of feeding a population increasing at the rate of 90 millions a year. By 2030, 590 million more people will be added to our population, which is nearing one billion. It will be impossible to feed this population even at the present rate due to accelerated soil erosion, depletion of water resources, salinity and water-logging. The availability of per capita cropland has come down to one fourth as compared to 1950. It will continue to decrease, leaving no possibility of further increase in food production. Wheat production has already been tripled, and the increase in paddy production is too slow.

Under these circumstances the only way to get more food from less and degraded land is tree-farming. Trees give more production on less land. If one acre of land is used to produce meal, it will give you 100 kg in a year, cereals 1 to 1-1/2 tonnes, fruits 7 tonnes, nuts 10 to 15 tonnes and leguminous trees 15 to 20 tonnes. Legumes also enrich the soil by nitrogen fixation in their roots. Their seeds can to some extent replace the cereals. A single 'you-chok' (Parkosia-Roxberggi) bean tree of Manipur produces several quintals of edible bean seeds.

Globally renowned 'Man of the Trees', saint-scientist Richard St. Barbe-Baker had made a moving appeal to establish "Tree Crop Research Centres" to identify suitable tree-species for different ecological zones all over the world. This devotee of non-violence at the age of 88 had come to seek the blessings of Acharya Vinoba Bhave in Paunar Ashram in 1977, and as a memorial to his pilgrimage he planted bael trees - the representatives of his ideas. The priorities in tree planting should be in the following order. Trees giving edible seeds to replace cereals with nuts, including coconut with high nutritive value, oil-seed giving trees, honey and gooseberry, bael - rich in vitamins. I have my own experience. I survived on a small quantity of bael and honey during my recent 74-day repentance vrata, I feel our ancestors had known the life-giving quality of these trees with their experience and so they regarded them as sacred trees. Parvati survived on bael leaves during her penance, say the learned men of the shastras.

We have already seen the importance of forests for oxygen, soil and water. Natural forests have great importance for the conservation of soil and water. The only way to combat the increasing water-crisis in India is to declare water as the main product of forests. For this the remaining natural forests should be managed as protection forests. No green felling should be done in these. Even the fallen and dead trees should be removed only to meet the local demand. Commercial forestry should be totally banned in these areas, especially in the catchment areas of rivers. The second step should be conversion of mono-culture stands into mixed forests by raising food, fodder, fuel, fertilizers and fibre giving species of trees, bushes, climbers, herbs and tubers in the midst of these. This will ensure the return back of endangered species of birds and beasts, which is essential to maintain the natural balance and regeneration.

The objective of development should not be only to raise the economic standard of life, but to raise the social, economic, ethical, and spiritual level of life. Humankind has always aspired to reach from Nature to Culture. Whenever these aspirations were fulfilled, it was a golden age in history. Literature, Arts, Music, and Architecture progressed during those periods. Jagganath Puri and Konark, the ancient literature, paintings and sculpture, are the monuments of our glory.

You could very well ask me, “besides making such long statements, what are you yourself doing about all this?” The audience has the right to ask every speaker this question. But usually an audience does not ask this question, and as a result of this the army of professional orators is increasing. I had joined the country’s freedom struggle as a boy of 13 and had dedicated myself to the service of the Himalaya. I, along with my wife Vimala, served from our centre in a small village. We joined non-violent peoples’ movements against liquor and tree-felling, to allay the dangers to Himalaya due to these. Now we have been working to avoid a great danger for the last seven years. Work on the highest dam in Asia, over the river Bhagirathi at Tehri, has been going on for the last 30 years. A dam is the cruelest way to kill Nature and Culture. This dam, which is uprooting 100,000 hill men is being constructed in a seismic zone, and will remain hanging over north India like a Damocles’ sword. Himalaya is on its death bed. The construction of dams by killing rivers, mining by skinning off the earth, deforestation causing the flowing away of flesh and blood of mountains, and promotion of luxury tourism, have all posed a grave danger to the Nature and Culture of that region. We the people of the Himalaya are the trustees of the devotional feelings of billions all over the world, who do not look upon these mountains as only heaps of stones, mud and snow, but as mountains of spiritual inspiration. Saint Vinoba Bhave and Loknayak Jaiprakash Narain had entrusted me with the work of a sentry to guard this sensitive region. Nab Babu had come to help me. Shri Man Mohan Choudhury with his luggage on his back like a hillman walked through the most difficult terrain in 1962. At a dangerous spot he was only 6 inches from death. I have been unable to do the work of sentry entrusted by these great souls, but I am sitting with a red danger signal like a railway watchman near the Tehri dam site and am crying at the top of my voice, “Beware! Danger, danger!” This danger has come under the attractive robe of development,

This is happening all over the country. Now in the competition to find a place in the global market and liberalisation by acquiring water, forests and land, the common people are being uprooted. I regard this as legalised robbery. Where fear and greed are used. I

had seen this in Gandhmardan. Democracy is being hanged in broad daylight. I am happy that in Orissa, non-violent movements have been launched to save Gandhmardan, Balipal, Chilka and the sea-coasts. I have come here to pay my regards to those activists and to get my batteries refilled from them. I specially want to pay my regards to the world's eldest centenarian editor Shri Radha Nathji Rath. I hope the remarkable work to give voice to silent Nature and awaken the masses through Samaj that he has done will continue. Now the peoples' movements will be based on devotion, dedication and determination. Though these will be the foundation stones, three types of people will have to come on one platform. These are - humanitarian scientists, social activists committed to change, and compassionate literary men, artists and journalists. Gandhi was so great, that all the forces joined him. Now those impatient to bring a change should organise themselves without delay. They have to form a creative minority, which during the course of history has always brought a change. All the four revolutions - the Industrial Revolution of Europe, the French Revolution, Proletariat Revolution of Russia and the Technological Revolution of our times - have failed to bring the required change. After these revolutions, it seemed for sometime that a new era has been ushered in, but their impact was not permanent.

The spirit of revolution has not died in society. With the advancement of science and knowledge, aspiration for it is increasing. Some thinkers hold that the 20th century of development will lead to the 21st century of environment. Viewing the dreadfulness of the problems of survival of all life on this planet, protection of environment alone will not do. We shall have to challenge all those forces and circumstances which are giving birth to war, pollution and hunger. Thus our slogan should be 'Survival'.

Who will show the way to survive? Will these be intellectuals, technocrats and politicians? No. The way will be shown by those who in spite of the onslaughts of the materialistic civilisation have survived sticking to their culture. They live, because they did not adopt the lifestyle of the conqueror of Nature, but they developed a life-style of harmony with Nature. Gandhi had blown the trumpet through Hind Swaraj in the beginning of this century. When some philosophers and activists discussing 'development and environment' with Ivan Illich, who lives in a hut like Gandhi in a tribal village in Mexico, asked in conclusion about a solution, Ivan said, "Perhaps the Eskimos can show us the way - the people who have identified themselves with the Earth and the Nature". Renowned scholar of ecology, Edward Goldsmith, concludes his book *The Way*: "The solution can only reside in restoring the natural systems that have been disrupted - which means returning to the way - that cultural behaviour pattern that assures the maintenance of the critical order of the living world."

The tribals (adivasis) all over the world who have been pushed behind the curtain by the materialistic civilisation are the living examples of those ancient cultures whose lifestyle is to survive and get sustenance by living in harmony with Nature. Austerity is an integral part of their life. They live upon renewable resources. They use less and less of metals, so much so that they use leaf plates to eat their meals. Their lifestyle will save our dying planet. It will have to be sublimated by modern science and technology. Malti Deviji and Nab Babu had founded Navjeevan Mandal for this. To keep their work going on with the same spirit of simplicity, restraint, and dedication will be like the small lamp, whose glory Gurudev Rabindranath Tagore has sung: The lamp had promised to keep on

burning, when the mighty sun wanted to take rest. The small lamp is the only hope to those groping in the dark. A lamp can kindle a thousand lamps, but an electric bulb can not kindle another bulb. I have come here in search of that lamp. I am confident that amongst you, those who have launched the non-violent movements of survival for the poor, the fishermen, forest dwellers and the peasants, there would be many such lamps. We have to spread their light all over the world. This will be the true homage to Nab Babu and reverence to Malti Deviji.

(Nab Krushna Choudhury Memorial Lecture, Bhubaneshwar, 23.11.96)

### **Saving the Bugyals and Gomukh Region:**

#### ***Allahabad High Court's Historical Verdict***

The recent verdict of the divisional bench of Allahabad High Court on a public interest writ petition of three vigilant citizens of Gopeshwar is a historical one on saving the Himalayas. There is no dearth of those who sing the glory of the greatness and scenic beauty of the Himalayas but there are few who feel the pangs of the dying mountains. On the contrary, efforts to save the nature and culture of the Himalayas wounded by the onslaughts of aggressive development of this materialistic era are ridiculed. They are damned as “anti development”.

The petitioners had objected to the setting up of a prefabricated house used as a hotel by the UP Government undertaking, Garhwal Mandal Vikas Nigam, between Chopta and Tungnath, one of the temples located at the highest altitude, because it could adversely affect the fragile ecology of the bugyal (alpine pasture). These bugyals have been used as pasture by sheep and shepherds for centuries. They live in such harmony with nature that they never build a house to live there. Sometimes they use a cave or a big stone as shelter. At the most they spread a tarpaulin over their heads. They also sleep in the midst of their flocks under the open sky. Thus they live there as a part of the local landscape. No harm is thus done to the bugyal.

Bugyals normally exist at or above an elevation of 12,000 feet where the trees and bushes end. This area is under snow from November to April. The snow melts and seeps into the ground to increase ground water, which keeps the springs and rivulets flowing round the year with clear and fresh water. Flowers of different colours blossom in the bugyals after July.

With easy accessibility of these areas as a result of the extension of motorable roads and the State's greed to earn money, the commercial exploitation of these as beauty spots, and as skiing sites has started. Auli bugyal near Joshimath has been developed as an international skiing spot. Now there is a competition to open hotels to accommodate the tourists. The next coveted spots for skiing are Dayara (12,000 ft) and Gidara (14,000 ft) in Uttarkashi district and Panwali in Tehri Garhwal. Har-ki-Doon, the beauty spot of Tons valley, is already under the attack of tourism. As many as 11,730 tourists visited Har-ki-Doon in 1994. Besides Sankri, the last bus terminus, small markets have grown at Taluka, Panwani-Osla.

The bugyals are under threat due to the increasing number of buffaloes of nomadic Gujjars permitted by the forest department. The meadow land is very shallow. Its upper



crust is scratched by the big hoofs of buffaloes; which accelerates soil erosion and causes landslides. The source of the 1978 Kanodiagad landslide, which blocked river Bhagirathi at Dabrani, was below Gidara bugyal. An artificial lake was formed near the source of Kanodiagad and the other 3½ km downstream. The bursting of these lakes created havoc in the whole valley up to Rishikesh.

The poor shepherds are not capable of protecting the bugyals from the dual attack of the tourists and the buffaloes. Behind tourism is the strong lobby of the Government, the hotel industry and the rich tourists. Nobody can disturb the buffaloes because, in Mira Behn's words, they grease the machinery of the forest department with butter while going upwards and with ghee while coming down and the machinery works very smoothly in their case.

These facts were not before the High Court. In spite of this, the court has given important directions not only regarding the bugyals but also about the Gangotri-Gomukh-Tapovan pilgrim route and brought the truth to the surface. This is, in short, as follows: "In matters of environment and ecology there is no such thing as winning or losing a case. This court has repeated often, and the Supreme Court has said so repeatedly, that protecting the environment and ecology is a constitutional obligation and a fundamental duty of the citizen, the State not excluded."

The complaint was that the residents of the hills felt threatened by the invasion of State organisations and the erosion of the sanctity and peace and tranquility of the bugyal. Bugyal, in Garhwal, basically means meadows and pasture lands, no different from the alpine meadows in Switzerland and Austria... These areas are pasture lands to the sheep and the shepherd. Bugyal is basically an ecosystem in itself and this delicate balance between ecology and environment has to be understood and respected.

With tourists come plastic and non-biodegradable material. It prevents rainwater from percolating into the hill slopes and causes ecological imbalance, the disappearance of little streams, water resources and greenery on which the hill people rely. The Garhwal Mandal Vikas Nigam argued in support of continuing the hotel, saying that "this complex was established by the funds of the Government of India after due clearance from the Government of Uttar Pradesh and the Government of India. The tourism department has spent a lot of money on the construction of this complex." The court remarked, "Merely because money has been spent is no ground to degrade ecology and environment. The Nigam will have to unwind its occupation of the bugyal before the end of March". The Court considered the issue of protecting the places of pilgrimage and tourist spots. The 22 km long Gangotri-Gomukh-Tapovan route was specially discussed. There are 40 kiosks or tea shops on this route. These are in clusters, as a result of which there is filth all around. Similarly the tourists from the plains throw aluminium cans, plastic water bottles, glass bottles, etc. The temperature is rising due to the burning of kerosene in stoves. According to an expert on glaciology, the recession rate of the Gangotri glacier has gone up from 18 metres to 200 metres a year during the last five years. A four kilometre fragmented block glacier between Tapovan and Gomukh was seen last year. The use of solar energy, especially to heat the water, has been suggested. The following safeguards and directions have been spelt out.

(1) The route between Bhojbasa and Gomukh is too near the glacier and it is not necessary to have kiosks or tea shops on this route.

(2) Between Gangotri and Bhqjbasa toilet facilities will be provided at intervals of four kilometres.

(3) Between Gangotri and Chirbasa not more than two kiosks or tea shops will be located at two places, excluding Chirbasa. Adequate arrangements will be made to receive the packing material which is non-biodegradable and prevent the burning of it on the mountain side.

(4) Every kilometre of the Gangotri-Gomukh-Tapovan route shall have containers, bins or receptacles to receive wastes.

The court has clarified the principle that “the polluter pays” in these words:” The polluter pays principle as interpreted by this court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution, but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of “Sustainable Development” and as such the polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology.”

Closing the proceedings, the court observed, “Should any person, in reference to these regions and the subject matters of these petitions only, at any stage have any grievance, he can always address the court for further redress on the subject”. But the bureaucracy in the remote Himalayan regions is so powerful that few would dare to do so. The bureaucracy is hand-in-glove with the affluent class and the political leaders, so far as the destruction of the environment is concerned.

I am writing these lines sitting by the construction site of the Tehri dam project. Around me is so much dust created by the digging operations at the dam site and running of trucks over the dusty road that the people of Tehri inhale enormous amounts of dust. The process of photosynthesis has stopped. Not only over the house roofs, but there is a thick layer of dust over everything inside the rooms. The buffaloes in the neighbouring Tipri village were ill due to the fodder of dusty grevia leaves. Everybody is coughing. The throat and nostrils are choked with dust. Since the highest dam, the pride of the nation, is being constructed, anything said against it is regarded as treason. The government’s definition of environment is different.

The story of luxury tourism in the Himalayas does not end here. Dr Shankar Kala, the tourism expert of H.N. Bahuguna Garhwal University, describes the disastrous impacts of it in these words: “The unregulated influx of tourists in the Har-ki-Doon bugyal region is responsible for the merciless plucking and trampling of valuable herbs and flower plants... There has been a change in the dresses of the people; jeans and jackets have replaced the traditional woollen clothes. This will in the long run affect the weavers and tailors.

“In a quest to earn more these people have started the musk and medicinal herbs trade. As a result of this atis is on the verge of extinction. Under the pretext of tourism the illicit trade of herbs is flourishing. Flesh trade and thefts have begun... The income from tourism in this area is around Rs 4 million a year. Certainly the local porters earn Rs 125 a day, but the hoteliers and shopkeepers are from outside. So 80 per cent of this goes outside.” Shall this aspect be ever looked into?

## We Remembered Gandhi

People remembered Gandhi in their own ways on January 30th. The majority of them paid floral tributes by garlanding his statue or picture. Gandhi would have never liked this. One of the weaknesses of Indian society has been to make their great men into deities and put their idols in temples. The idol can neither speak, nor move. This provides a good opportunity for people to ascribe to the statue their own ideas and feelings. This is what is being done to Gandhi. This hurts most those who had lived in the Gandhian era and blown with Gandhi's storm.

In this background I had to decide as to how to remember Gandhi, so that the generation born after Gandhi could have a glimpse into the revolutionary life of Gandhi. Tehri Garhwal was an autocratic princely state and the freedom struggle continued here even after August 15th. Thousands of people under the leadership of Shri Virendra Dutt Saklani (who recently expired on January 19th at the age of 82) replaced this regime with a parallel government on January 15th, 1948. These angry agitators wanted to wreak vengeance upon (he ruler and his officials for the atrocities done by them. Saklani and other Prajamandal leaders committed to the cause of non-violence, in spite of their two comrades being shot dead only three days earlier, assured the safety and security of the royalists. When a day before his assassination, the Prajamandal delegation related the story of this non-violent movement to Gandhiji in Delhi, he expressed satisfaction over this experiment of non-violence in the Himalaya.

But this did not happen all of a sudden. In 1944 Gandhi's own non-violent soldier-satyagrahi Shri Dev Suman had sacrificed his life after a 84-day fast inside Tehri jail for civil liberties. Suman through his great sacrifice and penance had taught a practical lesson in non-violence to those who had been oppressed for centuries by the autocratic rule. We decided to hold an all-religion prayer near Suman's memorial. But who would join it? The political workers were busy with the civic elections in Uttarakhand these days. In Tehri, there is a 47-year old constructive-work institution, the Thakkar Bapa Hostel, especially dedicated to the cause of eradication of untouchability. Its students tried to remind the citizens about Gandhi by taking out a prabhat pheri in the morning. They came to the prayer meeting, but some youngsters were playing cricket near Suman's memorial. I started spinning on my kisan charkha. This was an object of curiosity for the youngsters, and they left their game to sit around me and watch me spin. They had read in books about the charkha, had seen it in pictures, but were seeing this great Gandhian tool actually at work for the first time.

I remembered the time when I too had seen a charkha for the first time as a young boy and had been captivated by the sight of Shri Dev Suman spinning on it. Shri Dev Suman was regarded as a rebel of sorts. Where could he find a place to show it to us. So he sat under a banyan tree and started spinning. We had surrounded him in eager curiosity. We teased him, "Even if you spin for the whole year, you can not make a kurta." He instantly replied, "It matters little whether I spin enough for a kurta, but Gandhiji says that if eventually everyone starts spinning, the British rulers will quit India." "How is that possible?" we exclaimed. He put before us a small booklet by Gandhi costing two annas titled How to Bring Swaraj?. This was our first introduction to Gandhi.

It was an accident that our prayer meeting was a combination of Suman, charkha and the ideas of Gandhi. We had a small booklet containing Mr Saklaini's memoirs of his

experiments in non-violence and peoples' struggle against Tehri dam to protect their "Right to Life". In spite of the fact that I was observing silence, my charkha vocalised the Mahatma's ideals, and the all-religion prayer, the eleven vows (ekadash vrata) and Gandhiji's own "Prayer of a Sevak (servant)" was the best possible remembrance of him.

The greatest contribution of Gandhi was to fill the downtrodden, tired, oppressed and exploited people with self-confidence. His charkha could have given the strength to the country to live with self-respect through self-sufficiency. It is the biggest means to be free from exploitation and pollution. Gandhi regarded the charkha as the Sun and village industries as the planets revolving around it. Now the Sun has been eclipsed by big industries and the other planets have naturally faded away. At least one-third of our population is the victim of malnutrition. We have become dependent on foreign companies for our development. Our rulers felt glory in declaring on Gandhi's Memorial day that recent foreign investment in our country has reached the figure of 19 thousand crore rupees. We go even to the smallest country, begging-bowl in hand, to beg for our "development". We are still standing on the 133rd step down from the summit, where we aspire to reach after this great and insulting effort.

Far south in the country, the octogenarian S. Jagannathan and his wife Krishnammal set out on a yatra on January 30th to infuse the exploited and suffering masses with self-confidence. This couple has been active in getting justice for the landless for the last 45 years. After dedicating himself to Vinoba Bhave's mission, Jagannathan devoted all his time to solving the problem of the landless, which is very complicated in Tamil Nadu. In Tanjore district, which is regarded as the bread-basket of the south, the dalit landless were burnt alive by setting fire to their huts in Kelwanmani village. This happened three decades ago. The Jagannathans settled down there in a hut. I walked with them through these villages recently. Thousands of landless people have become landowners as a result of their efforts for thirty years. Just as we in the Himalaya have been attacked by "development" in the form of damming of rivers, mining of hill slopes, commercial exploitation of forests and luxury tourism, the coastal people have been attacked by polluting industries and mega prawn-farms on agricultural land for export by multinational companies. This has not only darkened the future of millions of fishermen surviving on fish catch by the sea shore, but agricultural labour has also been uprooted from the fertile delta land. The prawn is exported to U.S.A., Japan and Europe to meet the demand of the affluent classes there. It brings in the "dollar", supreme deity for the government of a society in which economics is the religion, but pushes towards death those labourers whom Swami Ram Tirtha, the great Vedantic saint, called the roots of the tree of our nation. It converts the water and fruit bearing land, whose glories Bankim Babu sung, into barren and saline wastes. It pollutes the drinking water. The Jagannathans offered non-violent satyagrah against this injustice. The government and the industrialists adopted repressive measures. They were beaten and imprisoned. There are cases against hundreds, but Jagannathan stood firm. At last the Supreme Court came to their rescue. The Supreme Court's judgment delivered on 1st December 1996 imposed stringent conditions on intensive and semi-intensive aqua culture industries and permitted traditional aqua culture; it ordered that land spoilt by prawn farms be reclaimed and distributed to the landless, and mangrove forests be revived by raising new plantations. This verdict has assured the right to life of millions of coastal people in India. It is a landmark verdict in the annals of development history of the third-world countries. It is a

beacon light to lead the environmental activists and other voluntary agencies to protect the coastal ecology, thereby safeguarding the interests of fishing communities and other village communities whose livelihood is based on agriculture; Mohammad Idris of Third World Network from Malaysia has sent a message to this effect.

Jagannathan had convened a National Convention in Chennai on January 20th. which was attended by activists, scientists and intellectuals from the coastal states of Karnataka. Kerala. Tamil Nadu, Pondicherry, Andhra Pradesh, Orissa and Bengal. I presented to them the holy Ganga-water from Gangolri. Jagannathan poured it into the sea at Kanyakumari and gave a call to the people to solve their problems by adopting Gandhi's powerful non-violent weapon of satyagrah. The message of the convention was: "The Panchayat Raj institutions should be taken into confidence and empowered to deal effectively with the issues relating to water, land and forests, so that the robbery of these resources may be stopped. Land to the village; Appropriate industries to the village; Power to the village". This in effect was the objective of Gandhi's Gram Swaraj.

It is often asked, "Is not Gandhi the whim of the old people?" since we now live in the computer age. I got the reply to (his question while returning back from Chennai to Delhi. T. Mukundan, an I.I.T. graduate who left a lucrative job in Canada, was also travelling to Sevagram by the same train. His illusions about modernity have been cleared, and he now works with his wife Girija in an Ayurvedic clinic. A young girl student was also travelling with him. Historian Dharampal, an associate of Gandhi's English disciple Mira Behn had come to see us at Sevagram Station. Many young people are working to compile Dharampal's research work on India before the British rule. Among these are many I.I.T. graduates. About thirty of these youth of the computer age recently assembled at Sevagram to understand Gandhi's charkha. Some of them have adopted the life of restraint, austerity and labour with old workers. A young Buddhist monk, Tenzin, has been with me for the last nine months, searching for the relationship between the charkha and the computer. Those are the Gandhians of tomorrow.